EFFECTIVENESS OF NURSE NAVIGATED SELF-MANAGEMENT STRATEGIES ON KNOWLEDGE, SKILL AND RESPIRATORY PARAMETERS REGARDING MANAGEMENT OF CHRONIC OBSTRUCTIVE RESPIRATORY DISEASES AMONG PATIENTS ATTENDING OUTPATIENT DEPARTMENT IN SELECTED SETTINGS-2018

DISSERTATION SUBMITTED TO

THE TAMIL NADU Dr.M.G.R.MEDICAL UNIVERSITY, CHENNAI

IN PARTIAL FULFILMENT OF REQUIREMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

OCTOBER 2018

Internal Examiner:

External Examiner:

EFFECTIVENESS OF NURSE NAVIGATED SELF-MANAGEMENT STRATEGIES ON KNOWLEDGE, SKILL AND RESPIRATORY PARAMETERS REGARDING MANAGEMENT OF CHRONIC OBSTRUCTIVE RESPIRATORY DISEASES AMONG PATIENTS ATTENDING OUTPATIENT DEPARTMENT IN SELECTED SETTINGS-2018

Certified that this is the bonafide work of

A.Lurdhu.M.Sc (Nursing)
OmayalAchi College of Nursing
No. 45, Ambattur Road, Puzhal,
Chennai – 600 066

COLLEGE SEAL :

SIGNATURE : _____

Dr. (Mrs.) S.KANCHANA
R.N., R.M., M.Sc. (N). Ph.D., PDF.(R).,
Principal & Research Director, ICCR,
OmayalAchi College of Nursing,
Puzhal, Chennai – 600 066, Tamil Nadu.

DISSERTATION SUBMITTED TO

THE TAMIL NADU Dr.M.G.R.MEDICAL UNIVERSITY

CHENNAI

IN PARTIAL FULFILMENT OF REQUIREMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

OCTOBER 2018

EFFECTIVENESS OF NURSE NAVIGATED SELF-MANAGEMENT STRATEGIES ON KNOWLEDGE, SKILL AND RESPIRATORY PARAMETERS REGARDING MANAGEMENT OF CHRONIC OBSTRUCTIVE RESPIRATORY DISEASES AMONG PATIENTS ATTENDING OUTPATIENT DEPARTMENT IN SELECTED SETTINGS-2018

Approved by the Research Committee in March 2018

PROFESSOR IN NURSING RESEARCH
Dr. (Mrs.). S. KANCHANA
R.N., R.M., M.Sc. (N). Ph.D., PDF.(R).,
Principal & Research Director, ICCR,
OmayalAchi College of Nursing,
Puzhal, Chennai-600 066, Tamil Nadu.

_____

MEDICAL EXPERT
Dr. SUNDER, M.B.B.S., MD., DTCD
Senior civil surgeon
Reg.No., 34135
Govt.General Hospital
Chennai

_____

Dr. SUNDAR, M.B.B.S.,M.D.,DTCD.
SENIOR CIVIL SURGEON
Reg. No. 34135
GOVT. GENERAL HOSPITAL

CLINICAL SPECIALITY–HOD CUM RESEARCH GUIDE
Dr. JOLLY RANJITH,
R.N., R.M., M.Sc. (N), PhD,
Professor cum, Head of the Department,
Medical surgical Nursing,
OmayalAchi College of Nursing,
Puzhal, Chennai - 600 066, Tamil Nadu.

_____

DISSERTATION SUBMITTED TO

THE TAMIL NADU DR.M.G.R.MEDICAL UNIVERSITY,

CHENNAI

IN PARTIAL FULFILMENT OF REQUIREMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

OCTOBER 2018

ACKNOWLEDGEMENT

I prostrate myself in the glorious hands of **ever loving, ever living Lord Almighty;** the master of all creation, for his immeasurable mercy, abundant grace, incomparable wisdom, magnificent blessings and who was holding my hand throughout the journey of my research project.

I express my sincere gratitude to **TheTamil Nadu Dr.M.G.R. Medical University**, Chennai, for granting me an opportunity to undergo the postgraduate programme in this prestigious university, for the upgrading of my professional career.

I extend my immense thanks and gratitude to the **Managing Trustee,** OmayalAchi College of Nursing, for giving me an opportunity to uplift my professional life.

I consider myself extremely fortunate to express gratitude and sincere thanks to **Dr.K.R. Rajanarayanan,** B.Sc., M.B.B.S, FRSH [London], Research Coordinator, ICCR and Honorary Professor in Community Medicine for his valuable suggestions, ethical approval and guidance for this study.

I express my deep sense of gratitude to**Dr. (Ms.) S. Kanchana**, Research Director, ICCR and Principal Omayal Achi College of Nursing, for her assiduous and conscientious motivation, positive inspiration that stimulated the investigator to complete the study in a best way possible.

I am also extremely indebted to **Dr. (Ms.) Celina.D**, Vice Principal, Omayal Achi College of Nursing, for her spur of motivational words, guidance, energetic and enthusiastic suggestions in my study process.

I express my sincere thanks to the **ICCR Executive Committee Members** and **Head of all the Departments** for their concrete and formal suggestions during the research proposal, pilot study and mock viva presentations guidance.

I would like to take this opportunity to express my profound gratitude and deep regard to my guide, **Dr. Jolly Ranjith** Professor, Head of the Department cum Research Guide, Medical surgical Nursing for her constant support and sharing the pearls of wisdom and excellent suggestions, valuable guidance, immense patience, perfection, and positive attitude always kept me motivated throughout the course of the study, motherly care bound corrections, deep seated moral support, enticing encouragements that stimulated me further in the successful completion of my study.

I would like to convey my heartfelt gratitude and gratefulness to my class coordinator **Mrs. Sasikala,** Associate professor, medical surgical Nursing department who provided immeasurable guidance and constant encouragement which helped me to complete this study.

A note of thanks to **Dr. Sumathi.M.** Our former class coordinator for her guidance and support for the past oneyear and for helping to select the topic for the research study.

Special and heartfelt thanks to **Mrs. Sorna Dayarani, ICCR,** Nurse Researcher cum Assistant Professor, Child Health Nursing, for her valuable help and constant encouragement throughout the learning process of this research.

I am immensely thankful to the **Librarians, Mr.N.Muthukumaran, Mr.P.M.Ashokan** and **Ms.Judith Anand**, Omayal Achi College of Nursing and the E-consortium Technical Expert from **The Tamil Nadu Dr.M.G.R. Medical University**, for their assistance and help in accessing the related literatures for this study.

I immensely thank all the **Medical** and **Nursing Experts** in the field of Medical Surgical Nursing who gave constructive criticisms, and valuable suggestions and efforts towards refining and validating the content of the tool.

I would especially like to thank to **Sr.Rosily Arakkal Administrator, Sr.Leena Assis, Administrator, St.Antony's hospital Madhavaram, Chennai and Sr.Liz John Administrator Sacread Heart Hospital Tuticorin** for grading me the permission to conduct the study and their kind cooperation to complete the study.

My special and warm thanks to all the **patients** who willingly participated and shared their precious time and warm cooperation throughout this study

My sincere thanks to Biostatistician **Mr. Venkatesan Sathish.A** for his efficient assistance in statistical analysis

I express my most sincere thanks and gratitude to **Librarians, Mr.N.Muthukumaran, Mr.P.M.Ashokan** and **Ms.JudithAnand**, Omayal Achi College of Nursing and the staff in virtual library at **The Tamil Nadu Dr.M.G.R. Medical University**, for their assistance and help in accessing the related literatures for this study.

My special thanks to **Mr.Arokiasamy** M.A., B.ED. P.G Assistant (English), for editing the tools in English and **Mr.Narantheran** M.A, B.ED, P.G Teacher in Tamil**,** St. Ann's matriculation higher secondary school, for editing the tools in Tamil.

An exceptional note of gratefulness to **Mr.G.K.Venkataraman,** Elite Computers for his kindness and effort in shaping and aligning the manuscript.

A memorable note of thanks and gratitude to my colleagues **"Mauval Amarathiness" Ms.Ambika, Mrs.Karthika Ms.Rajia,** and **Ms. Emily Joyce** A **Staunch Friend**. M.Sc Nursing (2016-2018 Batch) for their peer evaluation and beneficial ideas, which enhanced the study to attain its perfection. I am also grateful to my seniors **Mrs. Devi, and Mrs. Precilla Prabu** (2015-2017 Batch)for their timely help and valuable suggestions for this study.

My deep sense of gratitude to **St. Ann's Family** at Madhavaram for their moral and spiritual support, constant encouragement and motivation throughout the course and in my personal endeavors. I am indebted to **Sr.Paulin Augustin**, The Provincial superior, for her meticulous help, great understanding and providing me all that I needed, above all supporting me through her prayers. I special note of thanks to Srs. Renita and Taicy for their support and great concern.

I also express my heartfelt thanks to my parents and brothers for their unconditional love, constant encouragement, moral support, and special prayers rendered for the entire study.

I bestow my affectionate gratitude to my dear loving sister **Linex** and my nephew **Anto** for their constant love and concern towards me and supporting me in every way possible way for entire two years.

I would like to acknowledge several people who had knowingly and unknowingly helped me in the successful completion of this research work.

I thank God for the wisdom, blessings and perseverance that he has bestowed on me, during this research project, and indeed, throughout my life. He gave me all strength, Will, power, peace, positive energy to pass through every step ahead in this tough journey of life.

LIST OF ABBREVIATIONS

AO	-	Airway Obstruction
ADL	-	Activity Of Daily Living
ANOVA	-	Analysis of Variance
BMI	-	Body Mass Index
CINHA	-	Cumulative Index to Nursing & Allied Health
CORD	-	Chronic Obstructive Respiratory Disease
C.I	-	Confidence Interval
CPR	-	C - reactive protein
CVDs	-	Cardio Vascular Diseases
CDC	-	Centers for Disease Control)
DALYs	-	Disability Adjusted life Years
ERS	-	European Respiratory Society
ETS	-	Environmental Tobacco Smoke
FEVI	-	Forced Expiratory Volume In One Second
FVC	-	Forced Vital Capacity
GBD	-	Global Burden of Diseases
GI	-	Gastro Intestinal
GOLD	-	Global Initiative for Chronic
ICMR	-	Indian Council Of Medical Research
IEC	-	Information Education Communication
ICCR	-	International Centre for Collaborative Research
MEDLINE	-	Medical Literature Analysis and Retrieval System Online
My HeART	-	Malaysian Health and Adolescents longitudinal Research Team
NCD	-	Non Communicable Disease
NHMS	-	National Health and Morbidity Survey
NCD	-	Non-Communicable Disease
NFHS	-	National Family Health Services
NGO	-	Non Governmental Organization
NH	-	Null Hypothesis
PFT	-	Pulmonary Function Test
PEFR	-	Peak Expiratory Flow Rate

QOL	-	Quality Of Life
RNRM	-	Registered Nurse Registered Midwife
SES	-	Socio-Economic Status
SVC	-	Slow Vital Capacity
SCC	-	Smoking Cessation Counseling
SPSS	-	Statistical Package of Social Science
STEP	-	Social, Technological, Economical and Environmental, Political
SD	-	Standard Deviation
UN	-	United Nations
WHO	-	World Health Organization

LIST OF SYMBOLS

χ^2	-	Chi square
=	-	Equals To
<	-	Less than
>	-	More than
%	-	Percentage
p	-	Level of significance
n	-	Number of samples
N	-	Total number of samples
°	-	Degree
+/-	-	Plus or Minus

TABLE OF CONTENT

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF APPENDICES

Effectiveness of Nurse Navigated Self-Management Strategies on Knowledge, Skill and Respiratory parameters regarding management of chronic obstructive respiratory diseases among patients attending outpatient department in selectedsettings.

ABSTRACT

BACKGROUND: Chronic obstructive pulmonary disease (COPD) is a lung disease characterized by chronic obstruction of lung airflow that interferes with normal breathing and is not fully reversible.

Aim and Objective**:** To assess the effectiveness of Nurse Navigated Self-Management Strategies on knowledge, skill and respiratory parameters regarding management of CORD among patients attending OPD.

Methodology: Quantitative research approach, Quasi Experimental-Pretest post-test with non-equivalent control group design, was adopted to assess effectiveness of Nurse Navigated Self-Management Strategies (NNSMS) on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases (CORD) among 60 CORD patients (30 samples in each experimental and control group) attending outpatient department (OPD) at Sacred heart hospital, Tuticorin (experimental group) and St. Antony's hospital, Madhavaram (control group). CORD patients who fulfilled the inclusion and exclusion criteria, using Non probability purposive sampling technique was used to select the samples in this study. Nurse Navigated Self-Management Strategies (NNSMS) was administered and the level of knowledge, skill and respiratory parameters and compared with the pre and post test level between experimental and control group. ***Results*****:** The study findings revealed that the pretest knowledge score was 10.93 with SD 1.31 and the post test knowledge score was 19.47 with SD 1.98 and the skill score of pretest was 5.10 with SD 1.86 and post test score was 11.37 with SD 2.70 .The respiratory parameters pretest score was 8.30 with SD 2.18 and posttest Mean score was 5.87 with SD 2.36. The calculated' Paired t-test' value (18.89,3.77 and 17.47) for knowledge skill and respiratory parameters, respectively. There was very high statistical significance was found in the experimental group at the level $p<0.001$. ***Conclusion*****:** The results revealed that the Nurse Navigated Self-Management Strategies (NNSMS) on knowledge, skill and respiratory parameters was effective in improving the knowledge and skill, and reducing the respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases**.** It can be utilized for the home management of patients with CORD and other respiratory diseases.

Keywords: *Chronic Obstructive Respiratory Diseases. Nurse Navigated Self-Management Strategies knowledge, skill and respiratory parameters***.**

INTRODUCTION

A Non communicable disease (NCD) is a medical condition or disease that is not caused by infectious agents, it can result in rapid fatalities as those seen in heart diseases, stroke, cancer, diabetes, chronic kidney disease, respiratory disease and others, NCDs'

are distinguished only by their non-infectious cause and are of longer duration and generally slow progression requiring chronic care management.

The prevalence rates of COPD in India were from 2 to 22% in men and from 1.2 to 19%in women. It is distinctly more common amongst men and smokers. Since tobacco smoking is the most known and established risk factor for COPD.

In India, Chronic obstructive Respiratory Diseases (CORD) is the third leading cause of mortality. This is largely because, with India's economic growth and urbanization over the past decades, a larger section of the population has moved towards unhealthy lifestyles with tobacco use, decreasing physical activity, increasing stress level and excessive intake of saturated oils.

The average life span has increased due to improvements in medical care; however the rapidly ageing populations are more prone to chronic respiratory disease and hence fuelling the growth of CORDs over the next few decades. Prevalence and morbidity data greatly underestimate the total burden of CORDs, because the disease is usually not diagnosed until it is clinically apparent and moderately advanced.

The researcher through her clinical and personal experience felt the need to teach the self-management strategies to CORD patients, to reduce the re-admission and frequent visit to hospital, Therefore the investigator had encountered with patients who had CORD and understood the need for providing the knowledge, lack of knowledge leads to rise in disease condition, and affects the normal life style, increases the number of stays in the hospital. Though people working in the factories aware of the ill effects and its consequences, but still the investigator felt the need to teach them the self-management strategies and giving them the knowledge about CORD, and thus sharing that knowledge to others. And reduce further severity of the diseases.

OBJECTIVES

1. To assess and compare the pretest and posttest level of knowledge, skill and respiratory parameters regarding management of CORD among patients attending OPD.

2. To assess the effectiveness of Nurse Navigated Self-Management Strategies on knowledge, skill and respiratory parameters regarding management of CORD among patients attending OPD.
3. To correlate the mean differed level of knowledge, skill and respiratory parameters regarding management of CORD among patients attending OPD.
4. To associate the selected demographic variables with mean differed level of knowledge, skill and respiratory parameters regarding management of CORD among patients attending OPD.

NULL HYPOTHESES

NH_1: There is no significant effect of Nurse Navigated Self-Management Strategies on the level of knowledge, skill and respiratory parameters regarding management of CORD among patients attending OPD.

NH_2: There is no significant relationship between the mean differed level of knowledge, skill and respiratory parameters regarding management of CORD among patients attending OPD.

NH_3: There is no significant association of selected demographic variables with the mean differed level of knowledge, skill and respiratory parameters regarding management of CORD among patients attending OPD.

METHODOLOGY

A Quasi Experimental non-equivalent control group design, was adopted in order to assess the effectiveness of Nurse Navigated Self-Management Strategies (NNSMS) on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases (CORD) among patients attending outpatient department (OPD)The independent variable was the Nurse Navigated Self-Management Strategies (NNSMS). Knowledge, skill regarding management of Chronic Obstructive Respiratory Diseases, and selected respiratory parameters were the dependent variables. The study was conducted in the OPD of Sacred Heart Hospital for the study group it is a 350 bedded multispecialty hospital with an average of 150 patients consulting every day at the Medical OPD alone. The control group was selected from OPD of St. Antony's Hospital, Madhavaram. It is a 300 bedded multispecialty hospital with an average of 100 patients consulting every day at the Medical OPD alone. Patients with CORD who fulfilled the inclusion criteria were the samples. The Sample size consistedof 30 patients

each in the experimental and control group (Total 60 patients), who fulfilled the inclusion criteria. Non probability purposive sampling technique was used in this study. The study included the Adults who are aged between 21-75 years, medically diagnosed with CORD (Emphysema, Bronchiectasis or Bronchial Asthma), attending the Medical OPD, able to understand English/Tamil. And the study excluded adults who are critically ill during the study period. Having severe visual and hearing impairment. Restrained from performing Buteyko breathing exercise due to any recent surgery. Not willing to participate in the study.

The data collection tool constructed for this study has four parts .Background variables, Structured interview schedule on knowledge regarding CORD, Observational Checklist. Assessment of skill in performing Buteyko breathing, and Assessment of respiratory parameters of patients with CORD. The background variables, level of knowledge regarding CORD and Buteyko breathing technique was done in Information education communication (IEC) via video assisted teaching on Meaning, risk factors, causes, clinical manifestation, diagnostic evaluation, management, prevention of CORD. Buteyko breathing technique. Collected using structured questionnaires. To assess the skill Observational checklist was used. Assessment of respiratory parameters was done by collecting the history and using observational checklist.

After the intervention regarding CORD, and Buteyko breathing technique, the investigator conducted the post test after 7 days to assess the knowledge, skill and respiratory parameters. The data collected was analyzed and compared to identify the effectiveness of Nurse Navigated Self-Management Strategies (NNSMS) on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases (CORD).

RESULTS AND DISCUSSION

The findings of the study revealed the effect of administration of Nurse Navigated Self-Management Strategies (NNSMS)on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases (CORD)among patients attending Outpatient Department (OPD)states, that There was a significant difference in pretest and post test level of knowledge skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases (CORD)

The post test analysis on the level of knowledge between pre and post test revealed that the mean difference in the level of knowledge was8.54 with paired' value 18.89 and p value 0.001 mean difference of skill was 6.27 with paired 't' value as 3.77 and p value 0.001.Mean difference of respiratory parameters was -2.43 with paired 't' value as 17.47 which shows the level of knowledge, skill and respiratory parameters scores in post test was found statistically highly significant in the posttest . This value indicates the effectiveness of Nurse Navigated Self-Management Strategies (NNSMS).On knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases (CORD) among patients attending Outpatient Department (OPD).

Thus theNurse Navigated Self-Management Strategies (NNSMS).On knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases (CORD) was effective in improving the knowledgeskill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases (CORD

CONCLUSION

The findings proved that the Nurse Navigated Self-Management Strategies (NNSMS).has effectively improved the knowledge skill and respiratory parameters. The health care providers in their practice can use Information education communication (IEC) via video assisted teaching to inculcate the regular practice on Nurse Navigated Self-Management Strategies, for the prevention and management. CORD and readmission to the hospital. Hence, it can be used as an effective, life course approach to create a mass awareness and improve the knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases (CORD)

CHAPTER – 1

INTRODUCTION

"The way you are breathing can make you sick but it can also make you well."

(Dr.Konstanin Pavlovich Buteyko)

A Non communicable disease (NCD) is a medical condition or disorder that is not caused by infectious agents. It can result in rapid fatalities as those seen in heart diseases, stroke, cancer, diabetes, chronic kidney disease, respiratory disease andothers. NCDs are distinguished only by their non-infectious cause and are of longer duration and generally slow progression requiring chronic care management.[1]

NCDs account for 53 percent of deaths in India. Based on the available evidence, cardiovascular diseases (24%), chronic respiratory diseases (11%), cancer (6%) and diabetes (2%) are the leading cause of mortality in India. Treatment cost is almost double for NCDs as compared to other conditions and illnesses. Burden of NCDs and resultant mortality is expected to increase unless massive efforts are made to prevent and control NCDs and their risk factors.[2]

Majority (80%) of all 29 million NCD deaths occur in low and middle-income countries, of which a higher proportion (48%) is estimated to occur in people under the age of 70 years, compared with an estimated 26% in high income countries and a global average of 44%. Such premature death rates from NCDs are a major consideration in determining their impact.[3]

In India, Chronic Obstructive Respiratory Diseases (CORD) isthe third leading cause of mortality. This is largely because, with India's economic growth and urbanization over the past decades, a larger section of the population has moved towards unhealthy lifestyles with tobacco use, decreasing physical activity, increasing stress level and excessive intake of saturated oils. The average life span has increased due to improvements in medical care; however the rapidly ageing populations are more prone to chronic respiratory disease and hence fuelling the growth of CORDs over the next few decades. Prevalence and morbidity data greatly underestimate the total burden of

CORDs, because the disease is usually not diagnosed until it is clinically apparent and moderately advanced[4.]

Recently the systemic effects of more severe CORD have been recognized, including, weight loss, nutritional disturbances and abnormal skeletal muscle function. CORD is also frequently associated with, and may contribute towards, numerous co-existing diseases, such as heart diseases, osteoporosis and diabetes, which influence morbidity and mortality[5].It affects more than 5% of the population and is the third ranked cause of death in the United States of America (USA), killing more than 120,000 individuals each year. As a consequence of its high prevalence and chronicity, CORD causes high utilization of resources with frequent visits to hospital due to exacerbation and the need for chronic therapy[6].

CORD can co-exist with asthma, the other major chronic obstruction airway diseases. However, individuals with asthma who are exposed to noxious agents, particularly cigarette smoke, may also develop fixed airflow limitation and a mixture of asthma-like and 'CORD –like' inflammation. There is epidemiologic evidence that long standing asthma on its own leads to fixed airflow limitation. Other patients with CORD may have features of asthma such as a mixed inflammatory pattern with increased esonophils. While asthma can usually be distinguished from CORD, in some individuals with chronic respiratory symptoms and fixed airflow limitation. Generally, it remains difficult to differentiate the two diseases[7].

Population based survey was done in five Latin American cities (The Planto study) in the year 2010 by Menezes[8],et al. have documented that chronic airflow limitation may occur up to 10% in the life time of nonsmokers who are 40 years and older. The cause of airflow limitation in nonsmoker needs further investigation.

1.1 BACKGROUND OF THE STUDY

According to World Health Organization (WHO) report, 2015, almost half (49.9%) of people with asthma attack, especially children turnedout to have higher rates of attacks (47.5%) compared to adults (46.6%).

According to World Health Report (2011), chronic respiratory diseases dominates all other diseases accounting for 2% to more than a 10% of lost Disability Adjusted Life Years (DALYS) on a worldwide basis. A DALY combines the number of years lived with a disability and the number of years lost to premature deaths. Its incidence increases dramatically with age. Mortality from chronic respiratory disease is low before age 45. Above age 45, death rate increases from 50 to 200/10,000 individuals and is consistent across age groups in both men and women. CORD and Asthma are the most common chronic respiratory disease among adults. WHO also reported in the year 2011, that 68.2million people have moderate to severe CORD and more than 3 million people died of CORD; this corresponds to 5% of all deaths globally[9].

CORD dominates all other chronic respiratory diseases in accounting for almost 4 percent of DALYS lost among adults worldwide. The incidence of COPD increases with age, and death rates begin to rise dramatically over age 45. Among men over age 70, CORD accounts for nearly 9 percent of total DALYs[10].

In 2015 a public survey conducted locally during the World CORD Day, revealed that 65% had never heard of CORD; of those had heard, 90% were unaware of what CORD is, 28% had perceived the disease incorrectly, and 12.5%had the misconception that current or ex-smokers were not at a higher risk of CORD. It continues to be among the top 10 commonest cause of death in Singapore, and a significant burden to public health[11].

The various risk factors involved in the development of CORD are smoking, both active and passive, indoor pollution, outdoor pollution, genetics etc. Among all factors, tobacco smoke is by far the most important risk factor for CORD. It is more prevalent in males than in females. However this is a consequence of the marked difference in smoking exposure between males and females. Smoking tobacco, by far the most commonly used form globally, contains over 4000 chemicals, of which around 50 are known to be carcinogenic[12].

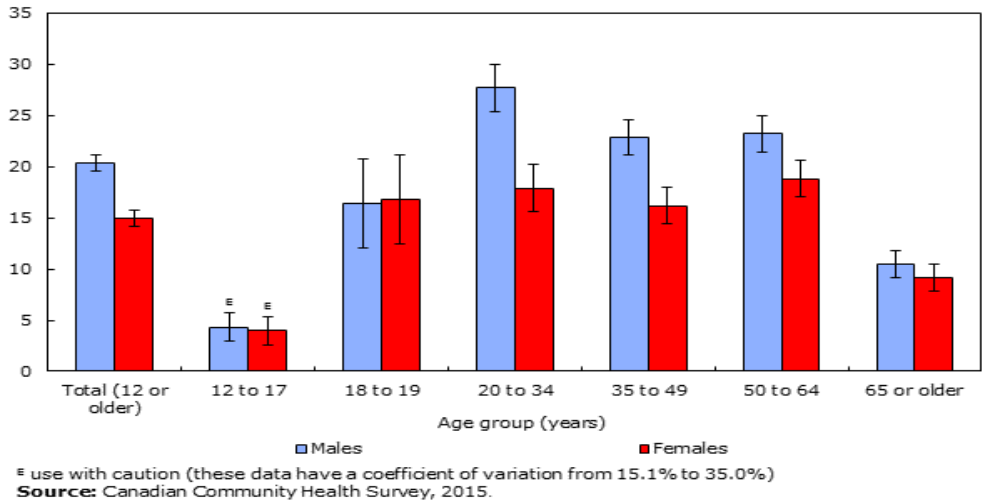


Fig.1.1.1: Percentage distribution of smokers by age group and sex, household population aged 12 or older.

The above figure depicts the findings of the Canadian Community Health Survey, 2015. It was found that the highest percentage of smokers was males aged 20-34 years and among females the prevalence was highest in the age range of 50-64 years.

India and China constitute 33% of the total population and account for 66% of the global CORD mortality. According to the Global Burden of Disease (GBD) study (2010), CORD was responsible for about 5% (76.7%million) of Global DALYs and 5%(2.9 million) of total deaths. Further it is estimated that mortality is likely to grow by160% in the Southeast Asian region[13].

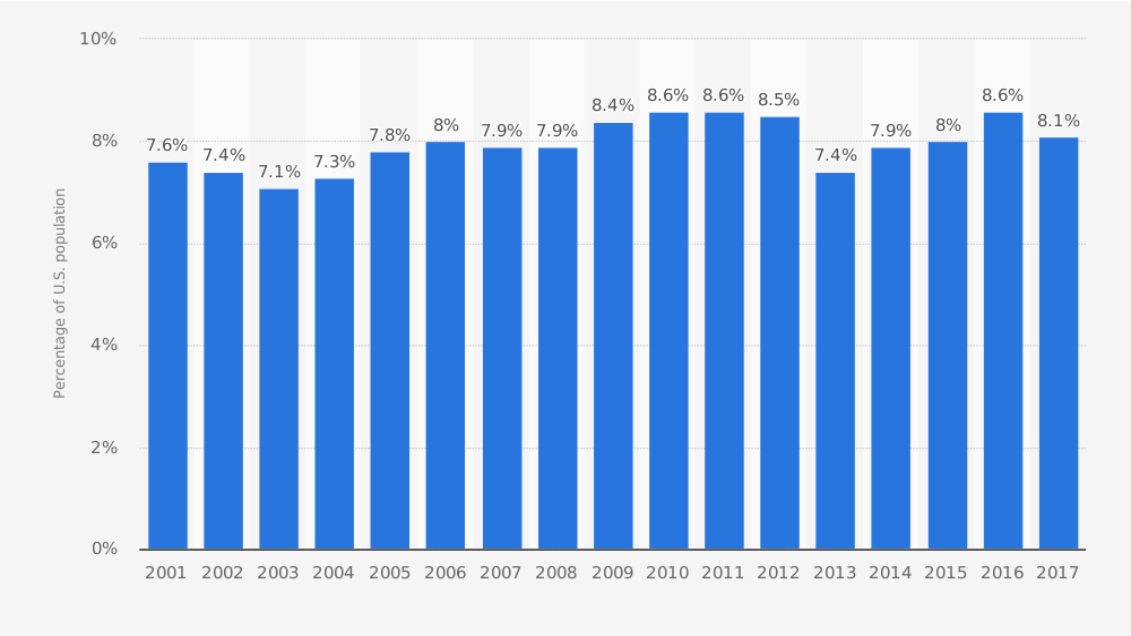


Fig 1.1.2: Percentage of population with current asthma in United States (2001-2017)

Source-Centers for Disease Control (CDC) National Center for Health Statistics (NCHS) Tableau Software Statistical, 2018.

The above figure depicts the status of asthma from 2001-2017 in the USA. The highest prevalence of 8.6 % was found in the year 2010, 2011 and 2016 indicating that it continues to be a significant health issue requiring more deliberate control measures.

The Department of Health in the United Kingdom (UK) 2011 estimated that 1.2 million people are living with diagnosed CORD which is the second most common lung disease in the country. Around 2% of the whole population,45% of all people aged over 40 live with diagnosed CORD. Research also suggests that prevalence of people with CORD has increased from under 1600 to nearly 2000 per 100,000 populations in the last decade. An estimated 1.2 million people (2% of the population) have diagnosed CORD. This is considerably more than the 835,000 estimated by the Department of Health in UK[14].

CORD is rare under 40 and becomes commoner with age, affecting 9% of those aged >70 years. CORD prevalence, incidence and mortality rates are highest in Scotland and the north of England. Prevalence and incidence are over twice as great in the most deprived population quintile than in the least. Nearly 30,000 people die from CORD each year[15],

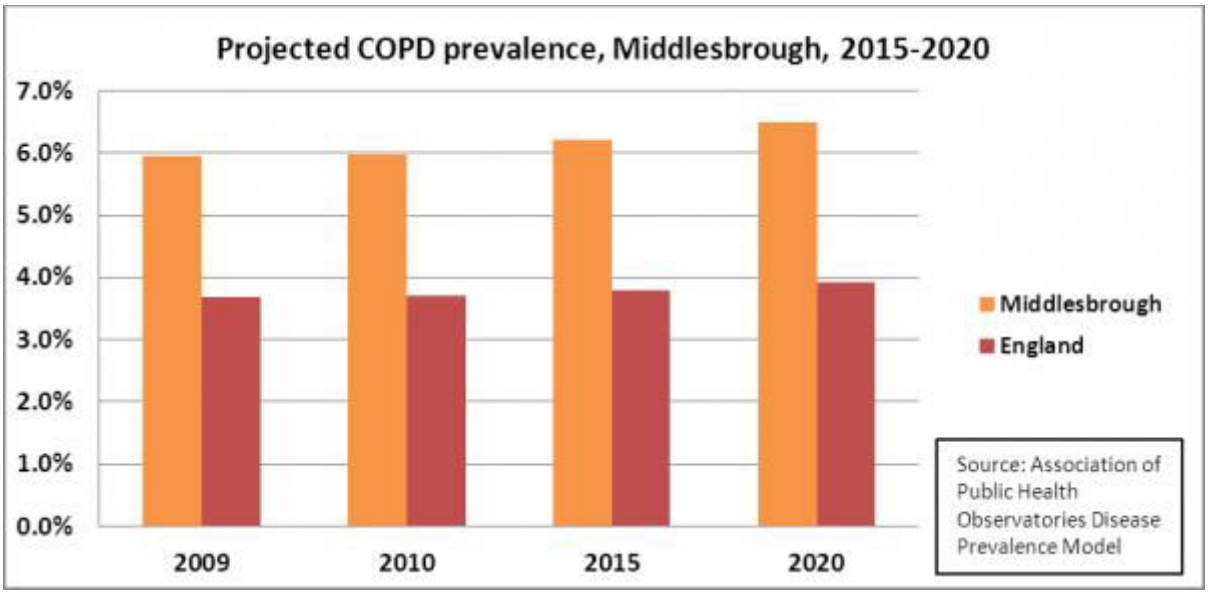


Fig.1.1.3: Projected CORD prevalence Middleborough from 2015 2020

Fig.1.1.3 depicts the prevalence of CORD in Middleborough and England. The highest projected COPD prevalence since 2009 reveals that Middle borough has

consistently been showing higher prevalence than England in the past and this trend appears to continue in the near future too.

A nationwide questionnaire based study conducted in the year 2013, estimated the prevalence of CORD at 3.49% in India ranging from 1.15in Mumbaito10% Thiruvananthapuram. The Burden of Obstructive Lung Disease (BOLD) group recently reported an average global CORD prevalence of 100% with wide variations across the participating countries. The BOLD study conducted in Pune, Mumbai, and Srinagar reported overall CORD prevalence estimates of 6.25%, 6.5%and 16.5% respectively. Though the study adopted standardized procedures, it did not have adequate power to generate dependable prevalence estimates aspect from the wide variations of prevalence. There are 300 million asthmatics worldwide with about 1/10 of the living in India[16].

In the year 2015, nearly 65 million, people in India suffered from Asthma; of these 65 million Asthma cases, the burden was one of the highest at 80% for those living in the household using firewood as fuel followed by 78% among those living in households using kerosene and 52% for those living in households using Cow-dung cakes. The burden of Asthma among individual who smoke cigarette was 5.5% million which constitutes nearly 8% of total burden[17].

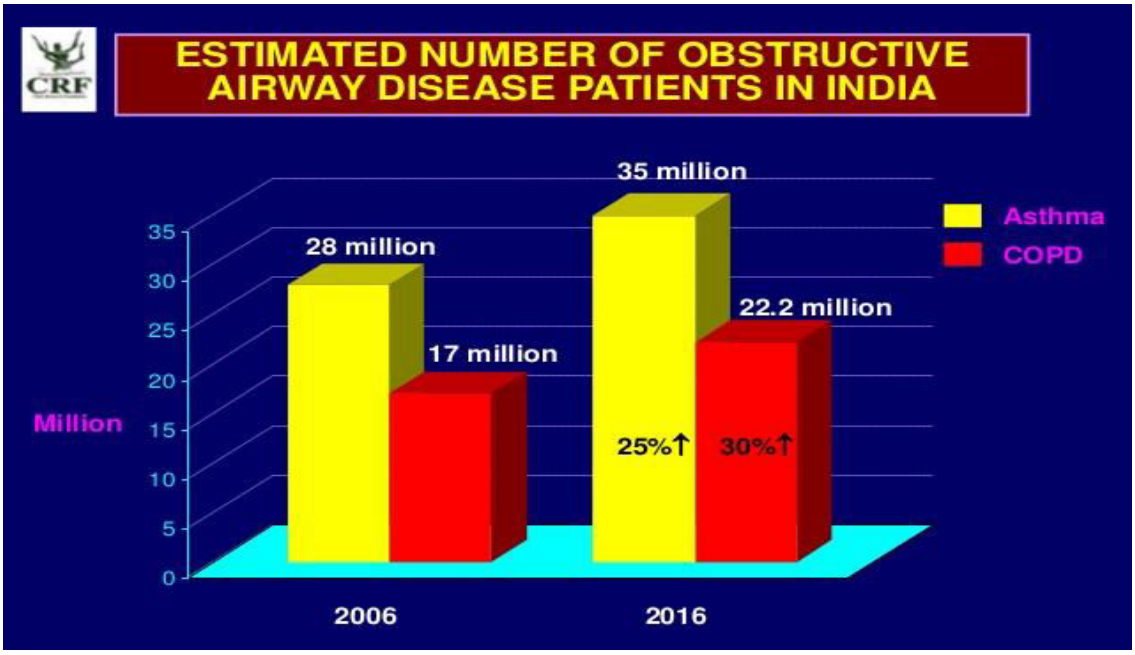


Figure 1.1.4 Estimated number of Obstructive Airway disease patients in India
Source: Murthy KJR, NCMH Background Papers-Burden of Asthma and CORDin India in 2006 and 2016.

The above figure depicts that the estimated number of airway disease (Asthma and COPD) patients in India has risen by 25% and 30% respectively from 2006 to 2016, for Asthma and COPD, with Asthma continuing to be more common.

The Health Commission identified in the year 2016 that about 22%million Indians were suffering from CORD. According to the National Center for Mental Health (NCMH) estimates, CORD is more prevalent in the rural areas of India, compared to the urban parts of the country and is on the increase with20%of deaths in India due to CORD. Asthma and other respiratory diseases are the secondary (10.2%) leading cause of death in the population aged 25-69 years in India, as reported in2011 -2012. Global Burden of Disease study in the year 2015 reported that 32lakh deaths are caused by CORD[18]. (Lancet Respiratory Medicine Journal)

India is experiencing a continued increase in burden of Chronic Obstructive Respiratory Disease (COPD). With an estimated prevalence of >57000000 people suffering from Obstructive Airway Diseases (OADs), by the end of 2016 India is in second place for harboring the most number of morbidity and mortality cases from OADs, after China[19].

In a recent single-day point prevalence study across India (POSEIDON) study, 14.5% of people had visited a physician for OADs .However, most of the information was obtained from private facilities within urban areas and, therefore, unlikely to reflect the true burden of disease, particularly in rural India where prevalence of COPD is reported to be even higher and is continuously increasing. Similarly, the estimated economic burden of COPD (2010–2011) was more than six billion dollars and expected to rise to eight billion dollars by the end of 2016[20].

Whether the current epidemic of CORD in India is just a tip of an iceberg or a volcano waiting to erupt will largely depend on these societal responses. The societal efforts include the strategies undertaken by the national and international organization to control CORD by implementing legislations and policies to control the sale and use of tobacco[21].

1.2 SIGNIFICANCE AND NEED FOR THE STUDY

CORD causes limitation in daily activities, loss of school and work days, lung function impairments, reduced quality of life, and an adverse socioeconomic burden. About 15 million disability adjusted life years are lost annually due to Asthma, which represents 1% of the total global disease burden. There are about 489, deaths attributable to Asthma annually, and the majority of death occurs in patients from low and middle income countries have more, severe symptoms than those in high-income countries due to in-correct diagnosis, poor access to health care unaffordability of therapy, exposure to environmental irritants, and genetic susceptibility to more severe disease[22].

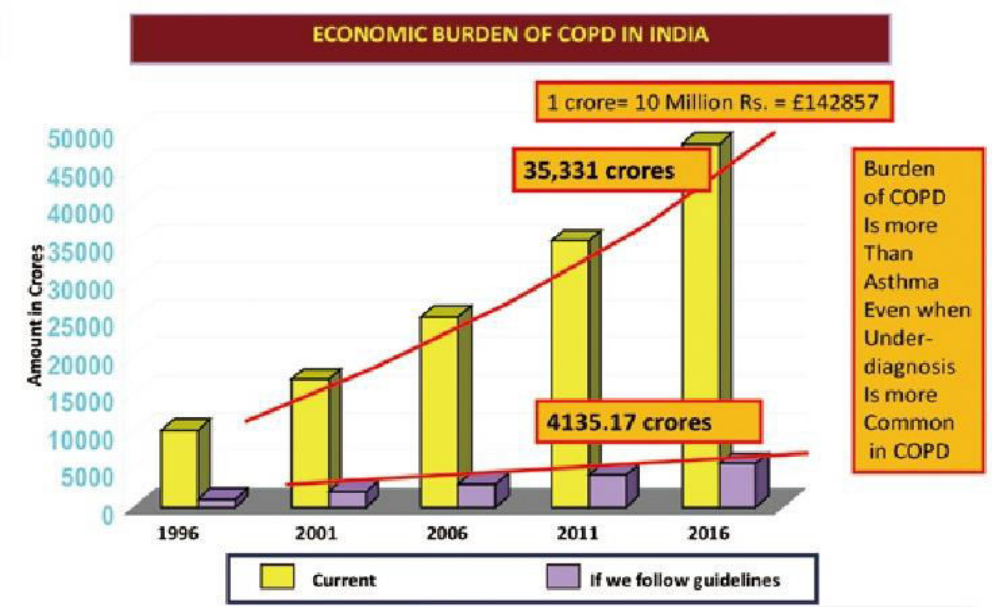


Fig 1.1.5 Projected economic burden of COPD in India from 1996-2016.

Source: Murthy KJR et al, NCMH background papers, 2005

CORD dominates all other chronic respiratory diseases in accounting for almost 4 percent of Disability Adjusted Life Years (DALYS) lost among adults worldwide. The incidence of COPD increases with age, and death rates begin to rise dramatically over age 45. Among men over age 70, CORD accounts for nearly 9 percent of total DALYs[23]. Achievements and maintenance of control through the assessment of clinical manifestation and future risk has become the aim of treatment over the years, in high-income areas. Mortality due to Asthma, which is predominantly an adult problem, has fallen substantially in recent decades with the spread of new guidelines for treatment that emphasize the use of inhaled steroids to control the disease.

Elements of health care structure that can also be monitored to evaluate the quality of care include drug availability, cost and quality, existence of local guidelines policies and training the health professional.

Table 1.1: Estimated percentage of patients with COPD 2000-2016 in India

Year	Males		Females		Total	
	Urban	Rural	Urban	Rural	Urban	Rural
2000	2.34	6.38	1.12	3.16	3.46	9.54
2001	2.66	7.26	1.32	3.70	3.98	10.96
2006	3.02	8.23	1.51	4.26	4.53	12.49
2011	3.43	9.35	1.72	4.83	5.15	14.19
2016	3.94	10.76	1.97	5.54	5.91	16.30

Source: The National Commission on Macroeconomics and Health, 2005

According to WHO estimates 2007, about 210 million people suffer from CORD worldwide with 3 million deaths. The progression of the disease is unquestionably linked to smoking, number of cigarettes smoked and the years of smoking. The most common symptoms of CORD are breathlessness and chronic cough. As the day worsens, everyday physical activities become arduous or impossible. Ideally interventions should occur well before the early stage of disease. Primary prevention strategies will have by far, the greatest effect to restrain disease in adults[24].

Early detection of occupational Asthma is vital to prevent further progression and to ensure cost effective management. Long term decline in lung function may not be reversible effective management, including smoking cessation, pulmonary rehabilitation and reduction of personal exposure to noxious particles and gases can improve quality of life and increase physical fitness.

Mahmud T.[25] et.al. (2012) conducted an analytical cross sectional study to compare the frequency of undiagnosed CORD among tobacco smokers. The study was conducted among 124 males to detect undiagnosed CORD. The result revealed that majority were former smokers and were in the age range between 42 to 78 of whom 47years (37.9%) who were found to have CORD, 24(37.5%) were cigarette smokers,

12(40%) were hookah smokers, while 11(36.7%) were cigarette and hookah smokers. The study concluded that frequency of undiagnosed CORD is high among smokers.

Simon D, Bowler, and Amanda Green[26]. (2010) conducted a randomized control trail to assess the impact of Buetyko breathing technique on medication use in Asthma among 38 people aged between 18-70yrs. The results showed a reduction in inhaled steroid use by 50% and Beta-2 agonist use of 85% at 6 months from baseline and no change of steroid use in control group. It concluded that Buetyko breathing technique is safe and has effectiveness on Asthma symptom control.

H.R.Subba[27]et.al (2014)conducted a descriptive cross sectional study in which purposive sampling was applied to choose 182 patients who were interviewed by using semi-structure interview schedule at Chitwan Medical College Teaching Hospital. The study findings revealed that 36.8% of the respondents were between age group 67-70 years, 54.4% respondents were male, 59.9% samples were from Chitwan district, majority of the respondents (62.1%)were out patients, 48.8% had history of CORD of more than five years,83.3%were hospitalized 1-2 times in the last years.63.2% had no history of CORD among family members and all respondents got information from health personnel. Most of all respondents (90.7%)had poor level of knowledge on self-care of CORD. The respondents' level of knowledge on self-care was statistically significant with family history, educational status.

Robert,[28] et.al (2010) conducted a clinical trial to examine whether the Buetyko breathing technique taught by a video is an efficacious Asthma therapy.38 adult subjects with mild to moderate Asthma were randomized to receive, either Buetyko breathing technique or placebo video to watch at home twice per day for 4 weeks. The result demonstrated a significant improvement in the quality of life among those assigned to Buetyko breathing technique as compared with placebo as well as significant reduction is inhaled bronchodilator intake in clients with asthma.

Thomas Freeman,[29]et, al (2011) conducted an experimental study was with the objective to assess the effectiveness of a non-pharmacological intervention clients. With asthma on conventional therapy, including inhaled corticosteroids. The study findings indicated that in the Buetyko group the proportion of Asthma control increased from

40%-70% and in control group from 44%-72%.The study concluded that Buetyko breathing technique provide additional benefit and prevented exacerbation. Therapy improved the quality of life among adult clients with asthma who were being treated with inhaled corticosteroid.

Cowierl, Conle,[30] et, al.(2011) performed a randomized controlled trail to compare the effects of various breathing exercises, Buetyko pranayama and Pink City Lung exercises for Asthma control for 3 groups. At the end of 26 weeks, a decrease in symptoms was noted in the Buetykogroup. But in other two groups no difference was found between the groups, in the lung function, exacerbation or inhaled cortice steroid use. The study concluded that, Buetyko can reduce bronchodilator use and improve symptoms; Buetyko may be worth in clients who are affected with respiratory diseases.

Buetyko breathing technique

Dr. Konstantin Buetyko is the developer of the fundamentally new, drug free therapy for bronchial asthma, well known today as the Buetyko Method. He is the Ukrainian born medical scientist and medical practitioner who discovered that the main cause of bronchospasm in bronchial asthma is CO2 deficiency in alveolar air, resulting from hyperventilation and low metabolic activity. Buetyko Method, which reverses not only asthma but also all other hyperventilation related diseases often associated with asthma, such as bronchitis, coughing, allergy, rhinitis, high blood pressure etc.[31]

The 4 primary effects of Buetyko breathing technique

1. Carbon dioxide levels decrease. Since higher levels of carbon dioxide signal smooth muscle to relax and dilate, low levels can cause the smooth muscle around the bronchioles (tubes that carry air into and out of the lungs) to spasm, resulting in chest tightness and difficulty in exhaling.
2. Oxygen is released from the blood more slowly, causing breathlessness.
3. Mast cells, immune-system components found in connective tissue, become overly sensitive to perceived allergens and release large amounts of histamine, which causes inflammation.
4. Airways dry out and become inflamed, encouraging mucus formation [31].

The researcher devised the above interventions into the Nurse navigated Self-Management Strategies for CORD patients to facilitate better home care management of CORD and to minimize frequent emergency visit to the hospitals. Based on the researcher's clinical and personal experience with CORD patients, it was decided that the investigator would guide the patient's and teach them the self-management strategies. This would enhance their knowledge of CORD and skill in performing Buetyko Breathing Technique which may enable them to experience reduction in the severity of symptoms, thereby live a better life each day by supported by more comfortable breaths life.

1.3 STATEMENT OF THE PROBLEM

A quasi experimental study to assess the effectiveness of Nurse Navigated Self-Management Strategies on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases among patients attending Outpatient Department in selected settings.

1.4 OBJECTIVES

1. To assess and compare the pretest and posttest level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.
2. To assess the effectiveness of Nurse Navigated Self-Management Strategies on knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.
3. To correlate between the mean differed level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.
4. To associate the selected demographic variables with mean differed level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.

1.5 OPERATIONAL DEFINITIONS

1.5.1. Effectiveness

It refers to the outcome of Nurse Navigated Self-Management Strategies on the level of knowledge, skill and respiratory parameters regarding management of CORD

assessed using structured knowledge questionnaire, observational checklist and respiratory parameters data sheet, after seven days of intervention.

1.5.2. Nurse Navigated Self-Management Strategies (NNSMS)

It refers to the comprehensive nursing measures, devised by the investigator, based on expert advice, focusing on empowering the individuals with CORD to manage their health status by themselves. It comprises.

- **Information education communication** (IEC) on CORD and its home care management (meaning, risk factors, clinical manifestations, common diagnostic tests, and home care management measures including measures to prevent exacerbation of CORD) via video assisted teaching, given in small group of 4-5 patients for about 20 minutes.

  It also includes **Buetyko breathing technique** which refers to a type of breathing exercise which has two components in each cycle:

  a) **Relaxed breathing**-The patient is asked to assume an erect and comfortable sitting position with both palms placed over upper and lower chest and then take three normal breaths and relax for 10 seconds. This is followed by control pause.

  b) **Control pause**- The patient is asked to take a deep breath and hold it as long as possible, according the patient's ability and note its duration. Release the breath when the urge is felt and relax for about 30 seconds.

  This cycle must be repeated thrice within a total duration of 15 minutes, and performed thrice a day before taking meals. This can be done daily to ensure significant improvement of the lung function.

- **Demonstration of Buetyko breathing technique** by the investigator for about 10 minutes.
- **Re-demonstration of Buetyko breathing technique** by the samples

1.5.3. Knowledge on CORD

Refers to the awareness of patients regarding home care management of CORD, assessed using Structured Interview Schedule.

1.5.4. Skill

Refers to learned ability of the patients to systematically demonstrate the technique of Buetyko breathing exercise, assessed using Observational Checklist.

1.5.5. Respiratory parameters

Refers to the assessment findings related to CORD, documented in the respiratory parameter data sheet prepared by the investigator and comments of the following:

- history collection of CORD symptoms
- observation of current physical features of CORD
- auscultation for presence of abnormal breath sounds
- palpation for presence and grading of pedal edema.
- Bio-physiological measures- Peak Expiratory Flow Rate (PEFR), spirometry (inspiratory capacity), pulse oximetry (O_2saturation) and respiratory rate (breaths/minute)

1.5.6. Chronic Obstructive Respiratory Diseases

Chronic Obstructive Respiratory Diseases (CORD)is a group of disorders namely, bronchial asthma, emphysema and bronchiectasis, causing airway limitation, narrowing and obstruction leading to poor airflow, O_2 deprivation and limited lung capacity.

1.5.7. Patients attending Out Patient Department (OPD)

It refers to the adults receiving consultation for management of CORD from the OPD of the selected settings.

1.6 NULL HYPOTHESES

NH_1: There is no significant effect of Nurse Navigated Self-Management Strategies on the level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.

NH_2 : There is no significant relationship between the mean differed level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.

NH_3: There is no significant association of selected demographic variables with the mean differed level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.

1.7 DELIMITATION

This study was delimited to a period of four weeks and samples who were medically diagnosed with CORD (Bronchial asthma, emphysema and bronchiectasis).

1.8 CONCEPTUAL FRAMEWORK

A conceptual frame-work or model refers to interrelated concepts or abstractions assembled together in a rational scheme by virtue of their relevance to a common theme that structure or offer a frame work, for conducting research.

The investigator adopted **Imogene King's Theory of Goal Attainment**,[31] as a basis for the conceptual framework which was aimed to assess the effectiveness of NNSMS on knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.

According to this theory two people communicate together to be helped, to maintain a state of health to establish goals and take action to attain goals. In this study the investigator and patient come together with the goal of achieving adequate knowledge and skill and enable better control of respiratory parameters through the administration of NNSMS, devised by the investigator. This frame- work consists of six major concepts that describe the phenomena.

- Perception
- Judgment
- Action
- Reaction
- Interaction
- Transaction

The major concepts of Imogene King's Theory of Goal Attainment are:

- **Perception**

Refers to personal representation of reality, it gives meaning to one's experience and represents one's own reality and influence one's behavior. Here the investigator perceives that the clients lack in knowledge, Skill and respiratory parameters regarding management of patient with Chronic Obstructive Respiratory Disease.

- **Judgment**

Individuals come together for a purpose; each person makes a judgment, takes mental or physical action and reacts to the other individual and the situation. The investigator judges that selected nursing intervention may enhance the knowledge and skill and respiratory parameters. Skill and respiratory parameters regarding management of patients with Chronic Obstructive Respiratory Disease. The clients too judge that utilization of selected nursing intervention package may enhance their knowledge skill and respiratory parameters of management of patient with Chronic Obstructive Respiratory Disease.

- **Action**

The individual transforms the perceived energy as demonstrated by observable behavior and performing mental and physical action here the investigator implements the selected nursing interventions package on NNSMS on CORD through IEC, and demonstration of Buetyko breathing exercise, assessment of respiratory parameters of patients with CORD in order to enhance the knowledge, skill and respiratory parameters regarding patient with CORD. The patients were willing and ready to gain knowledge and skill by actively participating in the study.

- **Reaction**

Reaction refers to the development of action and acting on the perceived choices for goal attainment. The investigator and the clients set mutual goals. This was done with the belief that selected nursing intervention package will enhance the knowledge and skill. Here the investigator selected patients with CORD based on the inclusion and exclusion criteria. Then the investigator conducted pre-test on knowledge by using structured knowledge questionnaire, for skill and respiratory parameters demonstration of Buetyko breathing technique and observational cheek list for CORD management.

- **Interaction**

Refers to an interaction with different set of values, ideas, attitude, and perception to exchange. Here the investigator interacted with the clients in the experimental group by administering selected nursing intervention that included IEC on CORD, definition, risk factors, types, clinical manifestation, diagnostic evaluation, complication, prevention and management and Buetyko breathing exercises through demonstration and re-

demonstration. The control group underwent the hospital routine management based on medical advice.

- **Transaction**

Refers to mutually identified goals of two or more individual and the means to achieve them. At this stage the investigator assessed the posttest level of knowledge and skill using structured knowledge questionnaire and observational cheek list for both the experimental and control group. The achievement of goal was indicated by attainment of adequate and moderately knowledge and skill regarding selected nursing interventions which is enhanced periodically through booklet on CORD. Those who attained inadequate level of knowledge and skill regarding selected nursing intervention package were assessed further and reinforcement of teaching was given.

The conceptual framework helped the researcher to plan and through progress the study in an organized manner. The investigator perceived the need to improve the knowledge of the patients and judged that the NNSMS may enhance their knowledge. The investigator and the clients set the mutual goals in the reaction phase; the investigator conducted the pretest on selected nursing intervention. During the interaction phase, the investigator administered the selected nursing intervention package to the experimental group and the hospital routine was carried out for the control group. In the transaction phase the investigator conducted the post-test using the same questionnaire and cheek list. The clients who had adequate and moderately adequate knowledge was further enhanced and who had inadequate knowledge underwent reinforcement.

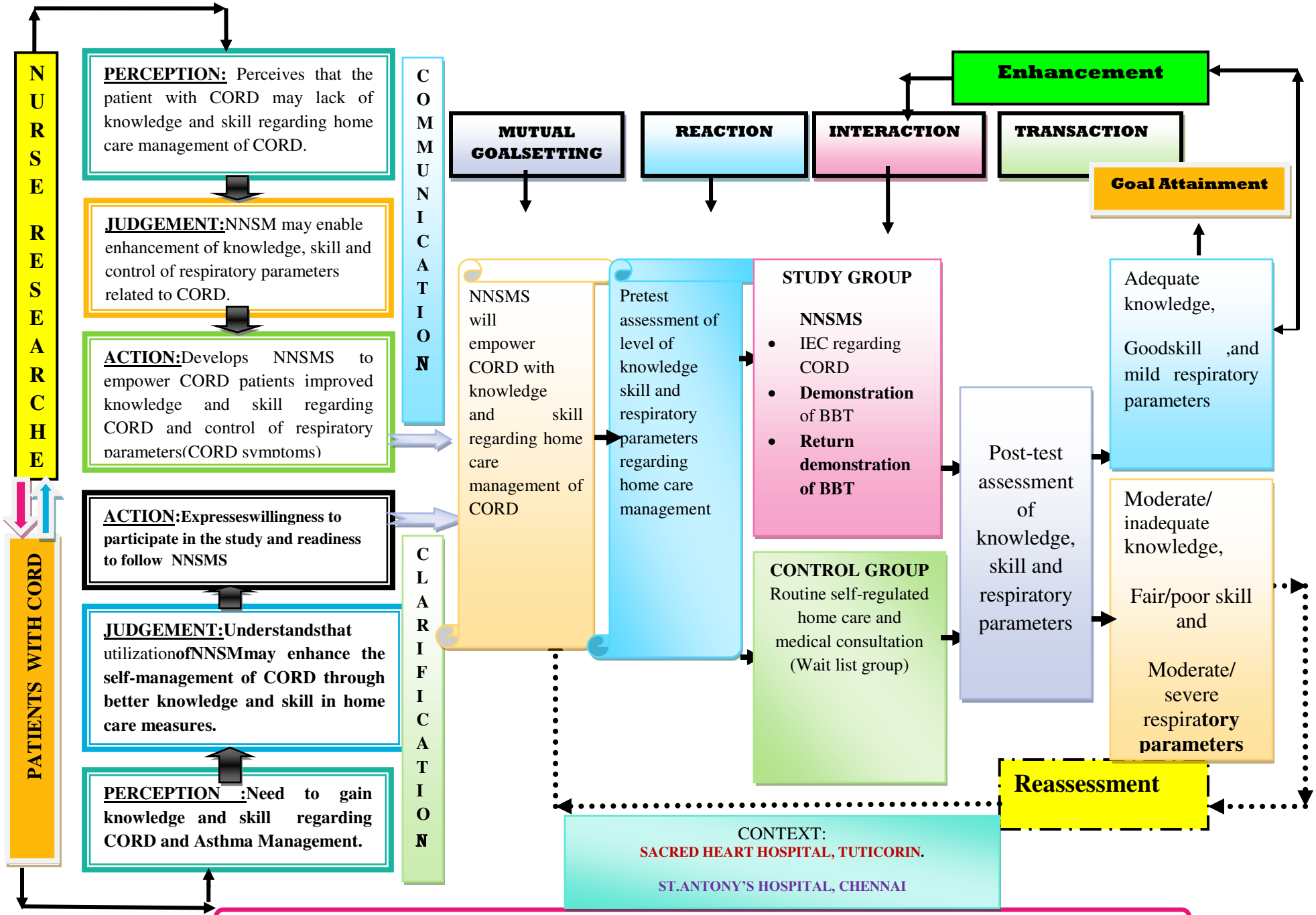


FIG 1.9 CONCEPTUAL FRAME WORK BASED ON KING IMOGENE KING'S THEORY OF GOAL ATTAINMENT

1.10 OUTLINE OF THE REPORT

Chapter 1: Deals with the introduction, background, significance and need for the study, statement of the problem, objectives, operational definitions, research hypothesis, assumption, delimitation and conceptual framework of the study.

Chapter 2: Focuses on critical review of the literature related to the present study.

Chapter 3: Enumerates the methodology of the study along with the plan for data analysis.

Chapter 4: Displays data analysis and interpretation.

Chapter 5: Elaborates discussion of the study.

Chapter 6: Gives the summary, conclusion, implication, recommendation and limitations of the study.

This study report ends with reference quoted and appendices.

CHAPTER – 2

REVIEW OF LITERATURE

This chapter focuses on the preparation of review as a component of an original study. A literature review refers to a "critical summary or research on a topic of interest often prepared to put a researcher on a topic of interest, often prepared to put a research in content[33]"(Politand Beck, 2014). To be more specific critical review is a means of summarization and evaluation of the ideas and informatics of an article.

Section 2.1 Sources of review of literature

The literature was collected from various sources such as primary, from research reports conference manual and theses. Secondary, reviews from internet, national and international journal articles and the tertiary sources: from Medical Surgical Nursing and Community Health Nursing books.

This review of literature was done using the key words such as CORD and its risk factors prevalence, incidence, mortality, morbidity, contributing factor, management, prevention, complication and Buteyko breathing technique. This review was gathered from standard database such as COCHRANE library, CINHAL Google scholar, MEDLINE, PubMed, WHO studies and other unpublished studies from dissertations, collectively 200 studies were searched out of which 85 relevant and updated studies were utilized to support the current research topics. Among the selected supportive studies were international 50 and Indian 15 literatures. There were 10 reviews related to nursing.

SECTION 2:2: CRITICAL REVIEWS RELATED TO

SECTION 2.2.1: General concepts of CORD

a. Meaning
b. Risk factors
c. Clinical manifestations
d. Diagnostic evaluation
e. Advanced symptoms
f. Management
g. Effective CORD management

h. Prevention of CORD

i. Primary Prevention

ii. Secondary Prevention

iii. Tertiary prevention

SECTION 2.2.2: Incidence and prevalence of CORD

SECTION 2.2.3: Risk factors and causes of CORD

SECTION 2.2.4: Clinical manifestation and complication of CORD

SECTION 2.2.5: Modalities for management and prevention of CORD

a. Pharmacotherapy

b.Herbal Remedies

C. Complementary and alternative therapies

SECTION 2:2.6: General awareness regarding CORD

SECTION 2:2.7: Effect of Buetyko breathing technique

SECTION 2.2.1: GENERAL CONCEPTS OF CORD

a) Meaning

Chronic Obstructive Respiratory Diseases, the most common chronic lung disease, are characterized by increased resistance to air flow as a result of airway obstruction or airway narrowing. It includes Asthma and bronchiectasis. Asthma is the chronic inflammatory lung disease that results in airflow obstruction but usually reversible and affects an estimated 25,000,000 Indians every year[34].

b) Risk factors

There are a few risk factors for CORD such as tobacco smoking, allergen inhalation, air pollutants, inflammation and infection, certain drugs, occupational exposure, food additives and many other factors which are responsible for it[35].

c) Clinical manifestations

The clinical manifestations of CORD are characterized by unpredictable and variable course depending on an individual's response.

- CORD can rapidly progress from normal breathing to acute or severe CORD.

- Recurrent episodes of wheezing, breathlessness, chest tightness, and cough may occur particularly at night, and in the early morning.
- Expiration may be prolonged.
- A person with CORD has difficulty with all movements in and out of the lungs,
- This creates a feeling of suffocation.
- Dyspnea is often progressive and usually occurs with exertion,
- The person with advanced CORD frequently experiences weight loss and anorexia.
- In the last stage of CORD, dyspnea may be present at rest. As the alveoli get distended, increasing amount of air trapped within it and this leads to flattened diaphragm and an increase in anterior and posterior diameter of the chest, forming atypical barrel chest[36,37,]

d) Diagnostic evaluation

The diagnosis can be done for the patient with CORD

- A detailed history collection
- Physical examination
- Pulmonary functions test, spirometry and chest-X-ray
- Serum anti-trypsin levels
- Exercise testing with oximetry and
- Arterial blood gas analysis[38].

e) Advanced symptoms

CORD symptoms can worsen in an advanced stage, some of which are:

- dyspneic at rest and may experience difficulty in speaking
- tripod position for maximum thoracic expansion
- respiratory rate goes higher than 30 breaths minute
- pulse rate greater than 120 beats/ minute
- using accessory muscles for breathing

- peakexpiratory flow rate is 40%
- ABG changes will be present[39].

f) Management

According to GOLD (Global initiative for chronic Obstructive Lung Disease)an effective CORD, management plan include four components.

1. Assess and monitor disease
2. Reduce risk factor
3. Manage stable CORD
4. Manage the exacerbation[40].

g) Effective CORD management

The goals of effective CORD management are to:

- prevent disease progression
- relieve symptoms
- improve exercise tolerance
- improve health status.
- prevent and treat complication.
- prevent and treat exacerbations.
- reduce mortality.
- These goals should be reached with a minimum of side effect from treatment[41].

h) Prevention of CORD

Prevention of CORD includes:

i. Primary Prevention:

- Health education plays a role in improving skill, ability to prevent illness and promote health status; It is effective in accomplishing certain goals, including smoking cessation, reduction of personal exposure to tobacco smoke.
- Injected polyvalent pneumococcal vaccination provides significant protection against lung disease [37].

ii. Secondary Prevention:

- Diagnosis of CORD is based on risk factors and the presence of airflow limitation that is not fully reversible with or without the presence of symptoms.
- Patients who have chronic cough and sputum production with a history of exposure to risk factors should be tested for airflow limitation, even if they do not have dyspnea.
- Arterial blood gas analysis should be considered in all patients with FEV1 < 40% predicted or clinical signs suggestive of respiratory failure or right heart failure.
- Several effective pharmaco therapies for tobacco dependence are available, and at -least one of these medications should be added to counseling if necessary and in the absence of contraindications[42.]

iii. Tertiary prevention

- Tertiary prevention aims to soften the impact of an ongoing illness or injury that has lasting effects. This is done to help CORD patients manage long-term, often-complex health problems and injuries (e.g. chronic diseases, permanent impairments) in order to improve as much as possible their ability to function, their quality of life and their life expectancy. Examples include:
- Cardiac or stroke rehabilitation programs, chronic disease management programs (e.g. for diabetes, arthritis, depression, etc.)
- Support groups that allow members to share strategies for living well.
- Vocational rehabilitation programs to retrain workers for new jobs when they have recovered as much as possible[44].

Section 2.2.2: Incidence & Prevalence of CORD

Prevalence is the proportion of a particular population found to be affected by a medical condition. The Indian study on Epidemiology of Asthma, Respiratory symptoms and chronic Bronchitis in adults had shown that the overall prevalence of Chronic bronchitis in adult >35 years is 3-49% ranging from 1.1% in Mumbai and 10% in

Thiruvananthapuram, in the year 2017.Numerous researchers have done studies regarding the incidence and prevalence of the CORD[45].

In the year 2010, during National health and nutrition examination survey, researchers analyzed the data from 6629 participants age above 50 years to determine whether C- reactive protein (CRP) and other inflammatory markers are present in participants with chronic airflow obstruction are associated with cardiac injury. The results revealed that in the presence of both, highly elevated CRP causes moderate and severe airflow obstruction. The Cardiac infarction score was 2.68 and 5.88 higher respectively than in those without airflow obstruction and with low CRP, which suggests an additive effect of CRP and CORD on the risk of cardiac injury. Finally concluded that Low-grade systemic inflammation was present in participants with moderate to severe airflow obstruction and was associated with increased risk of cardiac injury. Meta-analysis including, C-reactive protein results, and the study concluded that reduced lung functions is associated with increased level of systemic inflammatory markers[46,46].

The World Health Survey (WHS) was developed and implemented by the World Health Organization in the year 2011. A total of 1, 78,215 individuals from 70 countries responded. The report shows that global prevalence rates of Doctor diagnosed Asthma was 4.3% clinical / treated Asthma 4.5% and Wheezing 8.6%.Australia reported the highest rate of doctor diagnosed 21% clinical treated Asthma 21.5% and Wheezing 27.4%. Amongst those with clinical/treated asthma, almost 24% were current smokers, half reported wheezing, and 20% had never been treated for asthma and the study was concluded that COPD continues to be a major public health concern worldwide.[47,48]

Catherine E, Rycroft[49]et,al. (2011) performed a structured literature search on prevalence of CORD. Out of which 58 articles dealt about mortality of CORD. The researchers concluded that prevalence and incidence were greatest in men and those aged more than 75 years and mortality ranged from 3-111deaths per, 1, 00,000 populations. Studies from 2011 - 2014 for the Koran General population the researchers concluded that in Korea 15.5 / 1000 people were diagnosed with CORD annually. The incidence rate was found to be increased with older aged male, chronic smoking and low socio economic status[50].

Ulrik CS.,[51](2011)assessed the prevalence of airway obstruction. The findings of the study reported that the prevalence of airway obstruction was seen with increased age and increasing BMI, and was higher in men who are active smokers. Similarly, Hooper R, [52]et al., (2012)done the study on prevalence of airway disease. The result revealed that significant associations of COPD risk with age, body mass index, education completed hospitalization with a respiratory problem before the age 10 yrs. A Community based study was conducted, almost all respondents with CORD was diagnosed for the first time during this study. Those who were smoking, had higher BMI, and diagnosed with tuberculosis and co-morbidities like cardiovascular showed high risk of getting CORD[53].

The prevalence of tobacco use in three different areas around Chennai city, South India. The result revealed that, the overall prevalence of tobacco use was significantly higher in the rural compared to semi urban and urban areas. It is higher among men, than women and in subjects aged over 55 years. This may be due to the myth that men smoke and have more exposed to environmental pollution and occupational risk, but all women are not exposed to all these factors. In reality participation of men in such studies was more than women .Therefore there is no accurate comparison with regards to gender. Regarding age when people are younger, their lungs are generally healthy. It takes several years for CORD to develop and also impairment of all the sensory organ and lung function to manifest as diseases[54, 55].

A secondary analysis was carried out among rural population of India during the National Family Health Survey, to assess the prevalence with regards to the occurrence of CORD among slum and non-slum dwelling males, the results showed that among slum dwelling males, There was a high statistical significance observed in demographic parameters such as tobacco use, less educated and low socio economic status and among non-slum dwelling males use of tobacco and less educated shows high statistical significance for prevalence of CORD[56].

An observational study was carried out among textile workers at Surat, during which75 % of the workers reported that due to the illness, their work performance in industry was affected and the results revealed that the textile workers suffered from following symptoms; such as

- 7.32%had cold
- 21.97% had phlegm
- 33.12%had shortness of breath
- 18.15%had chest tightness
- 6.68%had wheezing
- 7%had throat irritation
- 5.73%had past history of respiratory disease[57.]

Similar study was done in various industries, the researchers identified that people who were exposed to vapors, gases, dusts, fumes, paint, cotton, textile industry, brick workers, welders, wood carpenters, construction workers has high risk of getting CORD and in addition to it, frequent absenteeism was also noticed for the employees who were affected with CORD[58].

The prevalence of CORD among nonsmoking males and those who were aged above 60 years and with low educational background has a high rate of CORD occurrence. Hence the study concluded that, even though they are non-smokers, environmental pollution and passive smoking was found to be the major reason to develop CORD. The researchers suggested that health related educational program can be implemented for the improvement of knowledge on CORD. A Meta analysis study revealed that smoking status and gender are the important predictors of CORD with prevalence of 6.5% to 7.7% among Indian population[59].

Jayakrishnan R.[60]et al., (2012) conducted a study on the practice of nicotine dependence among smokers in a selected rural population. The purpose was to understand the nicotine dependence of smokers selected for an ongoing smoking cessation intervention programme in rural Kerala. The data were collected from resident males in the age group of 18 to 60 years from 4 randomly allocated communities' development blocks of rural and trained accredited social health activist workers were utilized to collect data through face to face interview. The practice of Nicotine dependence was assessed by means of the six-item Fagerstrom Test for Nicotine Dependence (FTND). The result revealed that FTND scores increased with age and decreased with higher literacy and socioeconomic status

Section 2.2.3: Risk factors and causes of CORD

De Macro R[61]Acohort study was conducted to investigate the risk factors for CORD among young adults. The report showed that half of the adults who smoked less than 20packs /year accounted for 29 to 39 of new cases of CORD. The other determinants were respiratory infection in childhood, family history of Asthma role of sex, age and being underweight, Hooper R[38] et al., (2012).Out of which smoking is the most important risk factor for COPD

A cross-sectional and multicenter study was conducted among 497 active smokers from 40 to 70 years and spirometry was performed on all patients. The result revealed that majority of patients were men aged above 51 years, smoked an average of 32 packs/year and majority of the cases had a moderate to severe level of respiratory parameters. Smoking found to be the major cause of CORD, motivational programs can be conducted to change the behavior, and cognitive behavior therapies can be administered for smoking cessation[62-64]

Danielson P[65] (2012) conducted a study to estimate the impact of risk factors on disease prevalence using the standardized methods of the Burden of Obstructive Lung Disease (BOLD). The results revealed that smoking habits, respiratory symptoms, medical history, and exposure to airway irritants were the main risk factors. Descriptive survey done with a total of 869 CORD participants aged >35 revealed that history of TB, cigarette smoking and indoor air pollution uses of biomass fuel for cooking be an important risk factor for developing CORD. A national survey of China showed that 60% of families use biomass and 31% coal for cooking. According to Gu,et al,[66]the research results states that49.2% of non-smoker aged 35-74 old had exposed to second hand smoke of these 12.1% of male and 51.3% of female were exposed to second hand smoking at home , 26.7%, males 26.2% female were exposed in work place, similarly Yin [68]et al, also reported that 28% of women exposed to second hand smoking, poor living condition mal- nutrition and other factors were also found to be the risk factors.A population based cohort study was done association was found between osteoporosis and CORD.

Richard, Beasley, [69]et, al. (2010) A multivariate analysis was done with the total of 322,959 patients in 50 countries were participated and the analysis showed that, the

recent use of acetaminophen was associated with triggering the symptoms of CORD. Hence, the study concluded that Acetaminophen may represent important risk factors for the development of CORD.

A study was conducted in China to know the prevalence and risk of CORD the report showed that 17.6% of all deaths were due to CORD and the additional risk factors includes, environmental smoke, bio mass smoke and post pulmonary tuberculosis. In addition to it, a systemic review results revealed that CORD patients living near livestock farms and who have animal farm close to the house reported more respiratory symptoms.[57,70]

Section 2.2.4 Clinical manifestation and complication of CORD.

a. Clinical manifestation

[71]Population based cohort study was done and lung function was estimated from baseline and who met the defined criteria, divided in to four group, A. CORD grade 2-3 with rapid decline FEV_1, Group B. CORD grade 2-3 without rapid decline in FEV_1, Group C, ever smokers, Non Smokers, with Normal Lung Function. Meta-analysis study results identified that, the relationship between CORD forced expiratory volume in one second or forced vital capacity (FVC) and levels of various systematic inflammatory markers, C-reactive protein results showed reduced lung functions is associated with increased level of systemic inflammatory markers[72].

A study was conducted to measure to effect of smoking on lung function, the findings of the study revealed that the deterioration of Lung function and habitual cough is directly related to the number of cigarettes smoked per day in young smokers[73].

Hasan Khachi, and Neil Barnes,A group of Respiratory physicians studied regarding the clinical features on CORD patients attending their OPD, The symptoms identified was persistent and progressive and typical symptoms were breathlessness and wheezing, dyspnea was measured by using the dyspneascale, chronic cough with productive or nonproductive sputum often seen in patients as a sign of aging or lack of fitness and other symptoms where chest tightness can occur at any stage of CORD, the researchers concluded that, the above three typical symptoms will be present for the CORD patient and it helped to predict mortality in CORD patients.Likewise[74], A

Hospital based study reported that non Smokers with CORD have less impairment in airflow limitation and gas exchange when compared with smokers[75].

b) Complication:

A retrospective chest review among 244 patients who had undergone lung resection, studies revealed that post –operative pulmonary complications occurs more frequently in the CORD than non-CORD patients and life expectancy was five years survival was 36.2 %in the CORD and 41.2% in the non-CORD.

William Blah MD [76]reportedthat, the most important complication was found in lung function was collapsed lung (pneumothorax) poor gas exchange, heart problem (Narrowed arteries and higher blood pressure in the blood vessels, osteoporosis, week arms and legs, sleep problem, sleep apnea, diabetes, depression and anxiety were seen in patient with CORD.

Section- 2.2.5 Modalities for management and prevention of CORD.

There is no cure for CORD, and the damage to the lungs and airways are permanent. However, several medications can help reduce inflammation and ease breathing with CORD. The following medications can be prescribed.

a. Pharmacotheraphy
b. Herbal Remedies
c. complementary and alternative therapies

Short-acting bronchodilators.

- Albuterol (Vospire ER)
- Evalbuterol (Xopenex)
- Ipratropium (Atrovent)
- Albuterol/ipratropium (Combivent)

These short acting bronchodilators helps to open the airways to make breathing easier.

Corticosteroids.

- Fluticasone (Flovent), which comes as an inhaler.

- Budesonide (Pulmicort), which comes as a powder, liquid, or in an inhaler.
- Prednisolone, which comes as a pill, liquid, or as a shot and is usually given for emergency rescue.

Corticosteroids are a type of medication that reduces inflammation in the body, making air flow easier in the lungs.

Methylxanthines

- Theophylline

Works as an anti-inflammatory drug and relaxes the muscles in the airways.

Long-acting bronchodilators

- Aclidinium
- Formoterol
- Glycopyrrolate
- Indacaterol
- Olodaterol
- Salmeterol
- Tiotropium

Combination drugs

- lycopyrrolate/formoterol
- glycopyrrolate/indacaterol
- tiotropium/olodaterol[77]

b. Herbal Remedies

Certain herbal remedies can be great natural treatments for CORD

- **Eucalyptus**—helps break up congestion and expel phlegm.
- **Ginger**—has many benefits, such as breaking down mucus, improving circulation to the lungs
- **Peppermint**—is an herb that contains menthol, which can promote the relaxation of the muscles in the respiratory tract.

- **Ginseng**—has been shown to give some relief from CORD symptoms, including improvements in breathing and exercise tolerance.
- **Turmeric**—contains curcumin, which has the ability to improve a wide range of conditions and may have antiviral, anti-inflammatory and antioxidant effects.
- **Melatonin**—is typically known as a sleeping aid, but a study showed that melatonin helps to reduce oxidative stress in people with COPD[78].

A Study was conducted 57 subjects were randomized in two groups. Group 'A' given with 3 puffs reliever per day Group 'B' taught breathing exercises, the study reported that 62% of the breathing exercises group had the best outcome inthe management of patients with mild Asthma[79].

A Systemic review related to compliance in pulmonary rehabilitation programme, among patients with CORD, the reviews summarized that, CORD patients who attended complete programme had better respiratory outcome, the findings also suggested that pulmonary rehabilitation plays a major role in management of CORD and also in prevention of complications.[79,80]Similarly, the findings of a meta-analysis showed that aerobic exercise training demonstrated beneficial improvement in outcome of CORD patients. Multiple studies were conducted among CORD patients the results revealed that self-management on CORD was effective in reducing respiratory related symptoms[81].

A case-control study was conducted different types of exposure were observed totally 1,519 participants were initially recruited between 2004-2012. The Study demonstrated the importance of occupational factors in the genesis of CORD. Especially among smelter workers, the removal or substitution of recognized hazardous agents is the best way of preventing the onset of CORD[82]

Global Initiative for chronic obstructive lung disease (GOLD) has published a strategy for diagnosis and management for CORD in the year 2011 states that spirometer is required for making clinical diagnosis. It also suggested that smoking cessation, pulmonary rehabilitation and physical activity are first line treatment combined with pharmacological support[83].

Complementary and alternative therapies:

R.Guo, M.H Pitter and E.Ernst, and others[84]conducted randomized clinical trials, which showed herbal medicines have effectiveness on CORD. surveys were taken 216patients reported that taking complementary and alternative medicine reduces the severity of CORD. Yoga training was safe for CORD patients and improved their functional performance[85].

Section 2.2.6: General awareness regarding CORD

A multiple study results revealed that highest degree of ignorance regarding CORD (90%) was found and the study suggested that better educational and awareness programs are necessary for age group of 61-70 years[86].Few other literature reviews found that television plays a key role in spreading awareness regarding smoking cessation and smokers also needed continuous motivation to stop smoking. Social media plays major role in creating awareness among general population[87].

Other studies found that attitude of smokers and socioeconomic status greatly influence the awareness among CORD patients. A group of physiotherapist states that majority of CORD patients were not aware of chest physiotherapy (80%) relaxation technique (83%) and smoking cessation(71.3 %).This data evidently proves the greater need of awareness regarding pulmonary rehabilitation[88].

A survey was done through a CORD awareness questionnaire: the findings of the study were;

Awareness regarding:-

- CORD 47.84%.
- Pulmonary rehabilitation 24.14%.
- Cause of CORD 34.8%.
- Common symptoms 83%.
- Activities of daily living could increase breathlessness 73.8%.[89]

The finding shows to the public the immediate need to have awareness about the diseaseand pulmonary rehabilitation.

Section 2.2:7: Effect of Buetyko Breathing Technique(BBT)on management of CORD

A study was conducted on effectiveness of BBT, which revealed that all patient who had classical trade of dyspnea, wheeze and cough practiced BBT with supportive pharmaceutics which showed that, better outcome was seen among patient who practiced BBT, when compared with patients who had only pharmacological therapy. Similar study was done to measure the effectiveness of BBT among asthma patients who practiced yoga, using asthma quality of life questionnaire (AQLQ), BBT exercise was found to be effective than yoga[90,9I].

Dipti Agarwal ,[91,92]et.al performed study among 60 stable asthma patients on respective medications, and assessed the effect of BBT in dyspnea and wheezing, the study revealed that breathing exercise provided significant improvement in Spiro-metric parameters, marked reduction in breathlessness and wheezing. Similar Study was conducted for respiratory patients those who attend OPD. The findings revealed that BBT significantly reduced respiratory parameters and few other research Studies proved that BBT was effective in treatment of bronchial asthma and it can be considered as primary prevention of asthma. Literature states that BBT is a safe and efficacious for asthma management technique.

Marilyn Karam ,MD, Bani P. Kaur and others[92,93].Conducteda study to assess the effectiveness of BBT, findings showed that BBT has improved breathing for 52.9% of the subjects, while 67.6% felt that their daily activity was improved and 66.1% noted that the exercises allowed decreased use of a rescue inhaler. The researchers concluded that breathing exercises provided significant improvements in spirometric parameters and significant reduction in breathlessness, wheezing, and nocturnal symptoms as well as requirements of rescue medicines in asthma patients and also show better effect among pediatric patients.

Series of authors conducted same study in different places stated that BBT has a greater effect in improving the FVC of the lung.

Zakerimoghadam M,[105] et al., conducted a study to assess the effect of breathing exercises on fatigue level of the patients with CORD. The study concluded that respiratory exercise is effective in reducing the fatigue among patients with CORD.

Stated that breathing techniques may be useful in the management of patients with mild asthma symptoms, and those who use a reliever frequently. Similarly, few other researchers have found that, The BBT may be effective in improving the quality of life and reducing the intake of inhaled reliever medication in patients with asthma[100.]

RESEARCH METHODOLOGY

The methodology is the significant part of any research study which will enable the researcher to project a blue print of the research. It describes the research design, variables, setting of the study, population, sample, inclusion and exclusion criteria for sample selection sample size, sampling technique, development and description of the tool and plan for data analysis.

3.1RESEARCH APPROACH

Quantitative research approach was chosen for the study.

3.2 RESEARCH DESIGN

The research design used for the study is Quasi Experimental- Pretest post-test with non-equivalent control group design, based on Polit and Hungler(2014).This design was chosen, since the investigator was not able to randomly select the samples as it was an OPD setting and there was non-availability of excess samples fulfilling the inclusion criteria, within the allotted period of data collection.

SCHEMATIC REPRESENTATION OFQUASI EXPERIMENTAL – PRETEST POST-TEST WITH NON-EQUIVALENT CONTROL GROUP DESIGN

<table>
<tr><th>Group</th><th>Pretest (O_1)- On the day of intervention</th><th>Intervention (X)</th><th>Posttest (O_2)- 7th Day After Intervention</th></tr>
<tr><td>Experi-mental group</td><td rowspan="2">Assessment of the pretest level of knowledge, skill and respiratory parameters regarding management of CORD among patients attending OPD in selected settings.</td><td>NNSMS
❖ IEC via video assisted teaching given in small group of 4-5 patients for 20 minutes.
❖ Demonstration of Buetyko breathing technique.
❖ Re-demonstration of Buetyko breathing technique</td><td rowspan="2">Assessment of the posttest level of knowledge, skill regarding management of CORD and respiratory parameter among patients attending OPD in selected settings</td></tr>
<tr><td>Control group</td><td>❖ Routine hospital based care(Pharmacotherapy, and follow up according to physician’s advice)
❖ Wait list group</td></tr>
</table>

3.3VARIABLES

3.3.1 Independent Variable

The independent variable was the Nurse Navigated Self-Management Strategies (NNSMS)

3.3.2 Dependent Variables

The dependent variableswere

- Knowledge regarding management of CORD.
- Skill in performing Buetyko breathing exercise.
- Selected respiratory parameters relating to CORD.

3.3.3 Extraneous Variables

Age, education, occupation, chronicity of CORD, presence of comorbid illness etc. were some of the extraneous variables.

3.4 SETTING OF THE STUDY

The study was conducted in the OPD of Sacred Heart Hospital at Tuticorin for the study group. It is a 350bedded multispecialty hospital with an average of 150 patients consulting every day at the Medical OPD alone. The control group was selected from OPD of St. Antony's Hospital, Madhavaram. It is a 300 bedded multispecialty hospital with an average of 100 patients consulting every day at the Medical OPD alone. In an average, about 90-100 patients with CORD consult at these OPD every month.

3.5 POPULATION

3.5.1Target Population

All patients with CORD formed the Target Population

3.5.2Accessible Population

Patients with CORD who visited the OPD at the selected hospitals were the accessible population

3.6 SAMPLE

Patients with CORD who fulfilled the inclusion criteria formed the samples of this study.

3.7 SAMPLE SIZE

Samples of 30 CORD patients each, who fulfilled the inclusion criteria, were selected in the experimental and control group, total sample size was 60 patients.

3.8 SAMPLING TECHNIQUE

Non-probability purposive sampling technique was used to select the samples attending the outpatient department atthe selected settings.

3.9 CRITERIA FOR SAMPLE SELECTION

3.9.1 Inclusion Criteria

Adults who were

- aged between 21-75 years
- medically diagnosed with CORD (Emphysema, Bronchiectasis or Bronchial Asthma) for at least 6 weeks or more
- as attending the medical OPD only.
- able to understand English/Tamil

3.9.2 Exclusion Criteria

Adults who are

- critically ill during the study period.
- having severe visual and hearing impairment.
- restrained from performing Buetyko breathing exercise due to any recent surgery.

3.10 DEVELOPMENT AND DESCRIPTION OF THE TOOL

After an extensive review of literature, discussion with the experts and with the investigators professional experience, the investigator developed the tools used in this study.

The data collection tool constructed for this study has four parts:

Part-I: Background Variables

Part-II: Structured Interview Schedule on Knowledge regarding CORD

Part-III: Observational Checklist for Assessment of Skill in performing Buetyko Breathing

Part-IV: Respiratory Parameters Data Sheet

3.10.1 Description of the Data Collection Tool

Part-I: Background Variables

A. Demographic Variables-Age, gender, education, occupation, family income, number of family members, area of residence, type of fuel used for cooking.

B. Clinical Variables- Family history of CORD, smoking status, exposure to air pollutants and its type, chronicity and duration of CORD, past history of acute respiratory infections, allergies, regularity of treatment and any co-morbid illness.

C. Anthropometric Variables- Height, weight and BMI

Body Mass Index

S.No	Category	BMI (kg/m2)
1	Underweight	18.5
2	Normal Range	18.5-23
3	Overweight—At Risk	23-25
4	Overweight—Moderately Obese	25-30
5	Overweight—Severely Obese	30

Part-II: Structured Interview Schedule on Knowledge Regarding CORD

It consists of

- 25 multiple choice questions with one correct answer each

Categorized under the following headings:

S.No.	Content	No. of questions
1	Definition	1
2	Types	1
3	Risk Factors	2
4	Clinical Manifestation	5
5	Diagnostic Evaluation	2
6	Complications	1
7	Management	6
8	Prevention	1
9	Buetyko Breathing technique	6
Overall score		25

❖ **Scoring:** Correct response- '1' mark

Incorrect response- '0' mark

Interpretation of level of knowledge:

Score	Level of knowledge
≤50%	Inadequate level of knowledge
51-75%	Moderate level of knowledge
>75%	Adequate level of knowledge

Part-III: Observational Checklist on Assessment of Skill in performing Buteyko breathing

It consists of:

- 15 items regarding the steps of Buteyko Breathing technique.

Categorized under the following headings:

S.No.	Content	No. of items
1	Relaxed breathing	6
2	Control pause	9
	Overall score	15

Scoring: Correct response- '1' mark

Incorrect response- '0' mark

Interpretation of level of skill:

Score	Level of skill
≤50%	Inadequate level of skill
51-75%	Moderate level of skill
>75%	Adequate level of skill

Part-IV:**Respiratory Parameters Data Sheet**

It consists of:

16 items regarding clinical findings of CORD as follows:

- History collection of CORD symptoms

- Observation of current physical features of CORD
- Auscultation for presence of abnormal breath sounds
- Palpation for presence and grading of pedal edema.

Categorized under the following headings:

S.No.	Content	No.of items
1	History collection of CORD symptoms	7
2	Observation of current physical features of CORD	5
3	Auscultation for presence of abnormal breath sounds	2
4	Palpation for presence and grading of pedal edema.	1
	Overall score	**15**

Scoring: Presence of symptoms -'1' mark

Absence of symptoms - '0' mark

Interpretation of severity of CORD

Score	Measurement
≤ 50 %	Mild
51-75%	Moderate
> 75 %	Severe

Bio-Physiological Measures

This refers to the measurable parameters related to CORD as given below:

S.No.	Content	No.of items
1	**Bio-physiological measures-**	
	Peak Expiratory Flow Rate (PEFR),	1
	Spirometry (inspiratory capacity),	1
	Pulse oximetry (O_2 saturation)	1
	Respiratory rate (breaths/minute)	1
	Overall score	**4**

1. Peak expiratory flow rate (PEFR)

Score	Measurements
71to 100	Mild
51 to 70%	Moderate
≤50%	Severe

Spirometry (inspiratory capacity)

Mild-	>80%	FEVI/FVC
Moderate	50%-79%	FEVI/FVC
Severe	≤49%	FEVI/FVC

Pulseoximeter(O_2 saturation)

95-100	Normal
91-94	Mild hypoxia
86-90	moderate hypoxia
<85	severe hypoxia

3.10.2. Part -B - Intervention tool:

Nurse Navigated Self-Management Strategies (NNSMS) comprising the following:

A. Information education communication (IEC) via video assisted teaching on

- ✓ Meaning, risk factors, causes, clinical manifestation, diagnostic evaluation, management, prevention of CORD.
- ✓ Buetyko breathing technique**.**

B. Demonstration.

- ✓ Demonstration of Buetyko breathing technique.

C. Re-demonstration by samples.

- ✓ Re-demonstration of Buetyko breathing technique.

3.11 CONTENTVALIDITY

Content validity of the data collection and intervention tool was determined by experts in the field of Nursing, Medicine and Pulmonology.

- Nursing Experts- 3
- Physician-1
- Pulmonologist-1

3.12 ETHICAL CONSIDERATIONS.

Ethics is a system of moral values that is concerned with the degree to which the research procedure adheres to the professional, legal and social obligation to the study participants. (Polit and Hungler2014)

The ethical principles followed in the study were:

1) **Beneficence and non-maleficence**

The investigator followed the fundamental ethical principle of beneficence which includes the right to freedom from harm and discomfort and right to protection from exploitation.

a) **The Right to freedom from harm and discomfort**

The study was beneficial for the samples as it enhances their knowledge skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases (CORD) among patients attending Outpatient Department (OPD

b) **The Right to protection from exploitation**

The investigator explained the nature of study to the samples and ensures that none of the samples were exploited or denied fair treatment.

2) **Respect for human dignity**

a) **The Right to self determination**

The investigator gave full freedom to the samples to decide voluntarily whether to participate in the study or to withdraw from the study at any point of time and right to ask question**.**

b) **The Right to full disclosure**

The investigator explained the nature of the study, its purpose and steps involved; and obtained the oral and written informed consent from the samples.

3) **Justice**

a) The Right to fair treatment

The investigator has selected the study participants based on the inclusion and exclusion criteria and considered them that it's a need to gain knowledge on CORD and skill on Buetyko breathing technique the investigator has administered the same intervention tool for both the study and control group.

b) The Right to privacy

The investigator will provide and maintain the privacy where ever needed in the study.

c) Confidentiality

The investigator maintained confidentiality of the data generated from the samples**.**

3.13. RELIABILITY

S.No.	Tool	Testing reliability	Score	Inference
1	Structured Interview Schedule on knowledge.	Inter-rater method	0.8	Highly reliable
2	Observational Checklist on skill	Inter-rater method	0.8	Highly reliable
3	Assessment of Respiratory Parameters	Inter-rater method	0.8	Highly reliable

3.14 PILOT STUDY

- The study was conducted at St. Antony's Hospital, Madhavaram, Chennai, after getting formal permission from ICCR and Principal, Omayal Achi College of Nursing and from the Administrator and Nursing Superintendent of the hospital.
- The investigator selected 10 patients with CORD, who fulfilled the inclusion criteria through non probability purposive sampling technique. The patients who came to the OPD on Monday and Tuesday were selected as an experimental group. Samples who attended OPD on Wednesday and Thursday were selected as a control group.
- Informed consent was obtained from the patients after thorough and clear explanation of the, study and intervention by the investigator.

- ❖ Pre-test of knowledge regarding CORD was assessed using structured interview schedule; skill using observational checklist and respiratory parameters data sheet was used for the experimental group.
- ❖ The intervention was given on the same day for 30 minutes which included 15 minutes for IEC and 15 minutes for video assisted demonstration of Buetyko breathing technique. The samples were encouraged to follow the same regularly.
- ❖ The post test was conducted after 7 days to assess the knowledge, skill and respiratory parameters for the study group.
- ❖ Similar schedule was followed for the control group except for the administration of NNSMS. Instead they received the regular hospital based consultation and care and were administered the NNSMS after completion of post-test.
- ❖ There was no attrition experienced during the study and effectiveness of the intervention was analysed.

The finding of the study was as follows:

The analysis of the data gathered revealed that the data collection and intervention tool was easily comprehensible and simple enough for the samples to respond. The reliability of all the three data collection tools was found to be high and hence could be applied in the main study. The samples also gave a positive response to the NNSMS as they found it to be very beneficial in the management of CORD. Thus it was concluded that the study tools were reliable, feasible and practicable to apply in the main study.

3.15 PROCEDURE FOR DATA COLLECTION

- The main study was conducted after obtaining formal approval from ICCR, permission from the Principal, Omayal Achi College of Nursing and the Administrators of the respective hospitals.
- The data collection was conducted for a period of four weeks. The investigator selected 60 patients in the experimental group 30 and control group 30 with CORD who fulfilled the inclusion criteria using through non probability purposive sampling technique from the respective settings.
- Informed consent was obtained from the patients after thorough and clear explanation of the intervention by the investigator.

- Pre-test of knowledge regarding CORD was assessed using structured interview schedule, skill using observational checklist and the respiratory parameters through history collection, observation, auscultation and palpation and using appropriate measurable equipment to measure the respiratory parameters for both the experimental and control study group.
- The intervention was given on the same day for the experimental group, in small groups, for 30 minutes in which both IEC and video assisted demonstration of Buetyko breathing technique was done for 15 minutes each and the samples were encouraged to demonstrate the exercise and follow the same regularly.
- The post test was conducted after 7 days for the experimental group to assess the knowledge, skill and respiratory parameters.
- Similar schedule was followed for the control group except for the administration of NNSMS. Instead they received the regular hospital based consultation and care. The NNSMS was administered to them at the end of the post-test.
- No attrition was experienced during the study and effectiveness of the intervention was analysed.

3.16 PLANS FOR DATA ANALYSIS

Data was analyzed by using both descriptive and inferential statistics.

Descriptive Statistics

- Frequency and percentage of distribution was used to analyze the background variables of patients.
- Mean and standard deviation was used to assess pretest and post-test the level of knowledge, skill and respiratory parameters of selected patients.

Inferential Statistics:

- Student Paired and independent ‘t’ test was used to compare the data between, within the experimental group and control group.
- Karl Pearson Correlation Co-efficient was used to find out the relationship between knowledge, skill and respiratory parameters in experimental and control group.
- One way anova f-test and student independent t –testwas used to associate the selected background with the mean differed level of knowledge, skill and respiratory parameters in experimental and control group.

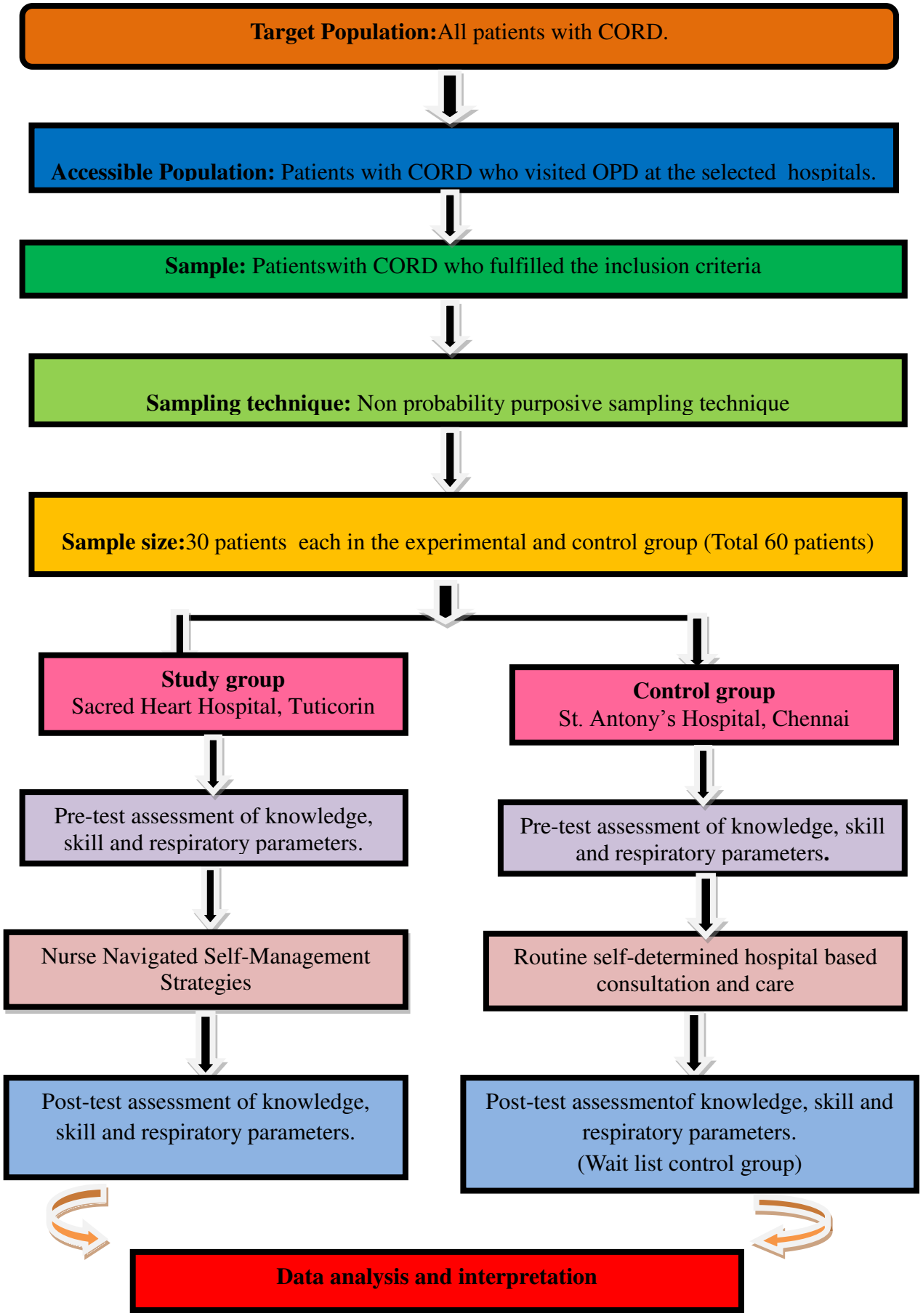


Fig.3. 1: SCHEMATIC REPRESENTATION OF DATA COLLECTION PROCEDURE

CHAPTER - IV

DATA ANALYSIS AND INTERPRETATION

The word analysis refers to the process of organizing and synthesizing the data in such a way that the research question can be answered and hypothesis tested[10].

(Polit and Hungler-2014)

This chapter deals with the analysis and interpretation of the data, related to the assessment of the effectiveness of Nurse Navigated Self-Management Strategies on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Disease, collected from 60 patients with CORD who visited OPD at the selected hospitals.

The collected data was organized, tabulated and analysed according to the objectives. The findings based on the descriptive and inferential statistical analysis are presented under the following sections.

ORGANISATION OF THE DATA

Section 4.1: Description of background variables of patients with CORD in the experimental and control group.

Section 4.1.1: Frequency and percentage distribution of demographic variables of patients with CORD in the experimental and control group.

Section 4.1.2: Frequency and percentage distribution of clinical variables of patients with CORD in the experimental and control group.

Section 4.1.3: Frequency and percentage distribution of anthropometric variables of patients with CORD in the experimental and control group

Section 4.2: Assessment of pretest and posttest level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.

Section 4.3: Effectiveness of Nurse Navigated Self-Management Strategies on knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.

Section 4.4: Correlation of the mean differed level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.

Section 4.5: Association of the selected background variables with mean differed level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.

SECTION 4.1: DESCRIPTION OF BACKGROUND VARIABLES OF PATIENTS WITH CORD IN THE EXPERIMENTAL AND CONTROL GROUP.

Table 4.1.1a: Frequency and percentage distribution of demographic variables- age, gender, education, and occupation in the experimental and control group.

N=60

Demographic variables	Group			
	Experimental (n=30)		Control (n=30)	
	n	%	n	%
Age (years)				
21 -35	2	6.7	2	6.7
36 -50	4	13.3	9	30
51 -65	11	36.7	12	40
>65	13	43.3	7	23.3
Gender				
Male	13	43.3	12	40
Female	17	56.7	18	60
Education				
Degree/Professional	8	26.6	9	24
Intermediate	4	13.4	5	16.7
High school	5	16.7	8	26.6
Middle school	4	13.3	3	10
Primary school	6	20	2	6.7
Non- literate	3	10	3	10
Occupation				
Professional	3	10	4	13.3
Semi Professional	3	10	4	13.3
Clerical	6	20	3	10
Skilled	9	30	11	36.7
Semi-skilled	2	6.7	3	10
Unemployed	7	23.3	5	16.7

Table 4.1.1a depicts the frequency and percentage distribution of selected demographic variables such as age, gender, education and occupation in the experimental and control group. Many of the samples were above 65 years of age in the experimental group and between 51-65 years in the control group. Both the groups had more number of females. Greater number of samples in the experimental and control group had completed their degree/professional education and were employed as skilled workers.

Table 4.1.1b: Frequency and percentage distribution of demographic variables-family income, family size, area of residence and types of fuel used for cooking in the experimental and control group.

N=60

Demographic variables	Group			
	Experimental (n=30)		Control (n=30)	
	n	%	n	%
Family Income (in Rupees)				
< 5000	5	16.7	4	13.3
5,001- 15,000	16	53.3	18	60
15,001- 25,000	4	13.3	2	6.7
>25,000	5	16.7	6	20
Family size				
3 members	6	20	5	16.7
4 members	11	36.7	15	50
5 members	13	43.3	10	33.3
Area of Residence				
Urban	18	60	21	70
Semi Urban	4	13.3	5	16.7
Rural	8	26.7	4	13.3
Types of fuel used for cooking				
Wood	2	6.7	1	3.3
Kerosene	3	10	3	10
Bio-gas	3	10	1	3.3
LPG Gas	20	66.7	24	80
Electric stove	2	6.7	1	3.3

Table.4.1.1b reveals the frequency and percentage distribution of demographic variables-family income, family size, area of residence, types of fuel used for cooking in the experimental and control group. It shows that many of the samples were drawing a salary of Rs.5001-15000 in both the groups. There were a total of 5 members in the family of most samples in the experimental group, and 4 family members in the control group. Most of the samples in both the groups were living in urban area and were using LPG for cooking.

Section 4.1.2: Frequency and percentage distribution of clinical variables of patients with CORD in the experimental and control group.

Table 4.1.2a: Frequency and percentage distribution of clinical variables –family history of CORD, type of relationship, smoking status, exposure to air pollutants and type of air pollutant in the experimental and control group.

N=60

Clinical variables	Group			
	Experimental (n=30)		Control (n=30)	
	n	%	n	%
Family history of CORD				
Yes	19	63.3	17	56.7
No	11	36.7	13	43.3
Specify the relationship				
Paternal	9	47.4	5	29.4
Maternal	4	21.1	6	35.3
Both	4	21.1	3	17.6
Sibling	2	10.5	3	17.6
Smoking status				
Non smoker	17	56.7	18	60.0
Ex-smoker	8	26.6	6	20
Currently smoker	5	16.7	6	20
Exposure to air pollutants				
Yes	29	96.7	28	93.3
No	1	3.3	2	6.7
Specify the type of air pollutants				
Nil	1	3.3	5	16.7
Tobacco smoke	3	10	7	23.3
Dust	7	23.3	9	30
Chemical/ exhaust fumes	6	20	4	13.3
Industrial/ power plant fumes	9	30	3	10
>one of the above	4	13.4	2	6.7

Table 4.1.2a shows the frequency and percentage distribution of demographic variables –family history of CORD, type of relationship, smoking status, and exposure to air pollutants and type of air pollutant in the experimental and control group. This shows that many of the samples had family history of CORD which was mostly through paternal origin in the experimental group and maternal origin in the control group. Many of the samples were non-smokers in both the groups and majority of samples had exposure to air pollutants, mostly affected with industrial/power plant.

Table 4.1.2b: Frequency and percentage distribution of selected clinical variables-chronicity of CORD, duration of chronicity, past history of respiratory infections in the experimental and control group.

N=60

Clinical variables	Group			
	Experimental (n=30)		Control (n=30)	
	n	%	n	%
Chronicity of CORD (≥5)				
Yes	24	80	21	70
No	6	20	9	30
Duration of chronicity (years)				
5 -8	13	54.2	16	76.2
9 -12	6	25	2	9.5
13 -17	3	12.5	2	9.5
>17	2	8.3	1	4.8
Past history of acute respiratory infection				
10 days back	4	13.3	9	30
15 days back	5	16.7	4	13.3
20 days back	8	26.7	8	26.7
25 days back	6	20	4	13.3
A month back	7	23.3	5	16.7

Table 4.1.2b displays the percentage distribution of selected clinical variables-chronicity of CORD, duration of chronicity, past history of respiratory infections in the experimental and control group. It denotes that many of the samples in both groups had chronicity of CORD with most reporting chronicity of 5-8 years duration. Many of the samples in the experimental group had Acute Respiratory infection 20 days back and 10 days back in the control group.

Table 4.1.2c: Frequency and percentage distribution of selected clinical variables- history of allergy, type of allergen, regularity of treatment, and presence of co-morbid illness in the experimental and control group.

N=60

Clinical Variables	Group			
	Experimental (n=30)		Control (n=30)	
	n	%	n	n
History of allergy				
Yes	15	50	12	40
No	15	50	18	60
Type of allergen				
Pollen	0	0	0	0
Food	0	0	1	8.3
Animal dander	4	26.7	5	41.7
House dust	5	33.3	1	8.3
Mixed	6	40	5	41.7
Regularity of treatment				
Regular	15	50	16	53.3
Irregular	15	50	14	46.7
Presence of co- morbid illness				
Yes	25	83.3	24	80
No	5	16.7	6	20

Table 4.1.2c shows the frequency and percentage distribution of selected clinical variables- history of allergy, type of allergen, regularity of treatment, and presence of co-morbid illness in the experimental and control group. The history of allergy was reported by 50% and 60% of samples in the experimental and control group respectively. Most common type of allergen reported in the experimental group was mixed type and house dust, whereas in the control group allergy to mixed type and animal dander was equally reported. Almost only 50% of samples in both groups were taking regular treatment and majority of samples in both the groups had comorbid illness.

Table 4.1.3a: Frequency and percentage distribution of selected anthropometric variables -height, weight and BMI in the experimental and control group

N=60

Anthropometric variables	Group			
	Experimental (n=30)		Control (n=30)	
	n	%	n	%
Height (cms)				
140 – 150	13	43.3	10	33.3
151 – 160	11	36.7	14	46.7
161 – 170	6	20	6	20
Weight (kgs)				
46 – 55	10	33.3	7	23.3
56 – 65	11	36.7	11	36.7
66 – 75	6	20	10	33.3
76 – 85	3	10	2	6.7
BMI				
Underweight	4	13.3	4	13.3
Normal	12	40	12	40
Overweight –At Risk	9	30	11	36.7
Moderately Obese	5	16.7	3	10
Severely Obese	0	0	0	0

Table 4.1.3a depicts the frequency and percentage distribution of selected anthropometric variables -height, weight and BMI in the experimental and control group. This shows that the height of many of the samples was between 140-150 cms in the experimental group, and 151-160 cms in the control group. In both the groups, weight of most samples was between 56-65 kgs and BMI was found to be normal.

SECTION 4.2: ASSESSMENT OF PRETEST AND POSTTEST LEVEL OF KNOWLEDGE, SKILL AND RESPIRATORY PARAMETERS REGARDING MANAGEMENT OF CORD IN THE EXPERIMENTAL AND CONTROL GROUP.

Table 4.2.1a: Mean and mean percentage distribution of domain wise pretest and post-test level of knowledge score in the experimental and control group.

N=60

CORD-Knowledge Domains	Max. score	Level of knowledge							
		Experimental group (n=30)				Control group (n=30)			
		Pretest		Post-test		Pretest		Post-test	
		Mean	%	Mean	%	Mean	%	Mean	%
Definition	1	0.57	57.00	0.87	87.00	0.53	53.00	0.60	60.00
Types	1	0.50	50.00	0.87	87.00	0.53	53.00	0.60	60.00
Risk factors	2	1.33	66.50	1.60	80.00	1.27	63.50	1.30	65.00
Clinical manifestations	5	2.10	42.00	3.87	77.40	2.13	42.60	2.27	45.40
Diagnostic evaluation	2	1.17	58.50	1.80	90.00	1.40	70.00	1.47	73.50
Complications	1	0.60	60.00	0.90	90.00	0.67	67.00	0.67	67.00
Management	6	2.23	37.17	4.07	67.83	2.30	38.33	2.50	41.67
Prevention	1	0.43	43.00	0.90	90.00	0.57	57.00	0.63	63.00
Buteyko breathing technique	6	2.07	34.50	4.60	76.67	1.97	32.83	2.10	35.00
Overall score	**25**		43.72		77.88		44.40		48.52

Table 4.2.1a. shows the mean and mean percentage distribution of domain wise pre and post-test level of knowledge score in the experimental and control group. It indicates that most samples in the experimental group had more knowledge regarding risk factors for CORD in the pretest and regarding diagnostic evaluation complication and management in the post-test.

In the control group, knowledge regarding diagnostic evaluation was found to be the highest in both the pretest and post-test.

The overall mean percentage in the experimental group was 43.72 in the pretest and this improved to 77.88 in post-test, whereas there was not much variation in the overall mean percentage of the control group,

Table 4.2.1b: Frequency and percentage distribution of overall pretest and post-test level of knowledge regarding management CORD in the experimental and control group.

N=60

Overall level of knowledge	Overall level of knowledge							
	Experimental group (n=30)				Control group (n=30)			
	Pretest		Post-test		Pre test		Post-test	
	n	%	n	%	n	%	n	%
Inadequate	26	86.7	0.0	0.0	25	83.3	23	76.7
Moderate	0.4	13.3	0.8	26.7	0.5	16.7	0.7	23.3
Adequate	0	0	22	73.3	0	0	0	0

Table 4.2.1b reveals the frequency and percentage distribution of overall pretest and post-test level of knowledge regarding management CORD in the experimental and control group. The overall knowledge level of majority of the samples, 86.7%, in the experimental group, was inadequate in the pretest, which was found to improve further in the post-test with 73.3% of samples having adequate level of knowledge. In contrast, in the control group, 83.3% and 76.7% samples had inadequate level of knowledge in the pretest and post-test respectively.

This shows that both the groups were homogenous with regard to their level of knowledge in the pretest but after the administration of Nurse Navigated Self-Management Strategies, the experimental group showed a marked improvement in the level of knowledge, in the post-test, in comparison to the control group.

SECTION 4.2.2: ASSESSMENT OF PRE AND POST TEST LEVEL OF SKILL REGARDING MANAGEMENT OF CORD IN THE EXPERIMENTAL AND CONTROL GROUP

Table 4.2.2a: Mean and mean percentage distribution of domain wise pretest and posttest level of skill regarding management of CORD in the experimental and control group

N=60

Skill Domains-Buetyko breathing technique	Max score	Level of skill							
		Experimental (n=30)				Control (n=30)			
		Pretest		Post-test		Pretest		Post-test	
		Mean	%	Mean	%	Mean	%	Mean	%
Relaxed Breathing	6	1.53	25.5	4.57	76.17	1.63	27.17	1.73	28.83
Control Pause	9	3.57	39.67	6.80	75.56	3.77	41.89	3.97	44.11

Table 4.2.2a reveals the mean and mean percentage distribution of domain wise pre and posttest level of skill regarding management of CORD. It denotes that in the pretest and post-test, both the experimental and control group were observed to have greater skill in performing control pause of the Buetyko breathing technique. The experimental group alone showed an improvement in performing relaxed breathing in the post-test.

Table 4.2.2b: Frequency and percentage distribution of overall pretest and post-test level of skill regarding management of CORD in the experimental and control group.

N=60

Overall level of skill in Buetyko breathing technique	Level of skill							
	Experimental group (n=30)				Control group (n=30)			
	Pretest		Post-test		Pre test		Post-test	
	n	%	n	%	n	%	n	%
Needs improvement in skill	18	60	0	0	16	53.3	13	43.3
Fair skill	12	40	9	30	14	46.7	17	56.7
Good skill	0	0	21	70	0	0	0	0

Table 4.2.2b shows the frequency and percentage distribution of overall pretest and post-test level of skill in the experimental and control group. It displays that in in pretest, 60% of samples in the experimental group needed improvement in skill, whereas in posttest 70% of them had improved to good skill.

With regard to the control group, 53.3% of the samples needed improvement in skill in the pretest and this showed a minimal change with 56.7% of the samples demonstrating fair skill in performing the exercise techniques.

This indicates that administration of Nurse Navigated Self-Management Strategies on CORD which included demonstration and re-demonstration of Buetyko Breathing Technique had a marked impact in improving the overall level of skill of the experimental group.

SECTION 4.2.3: ASSESSMENT OF PRETEST AND POST-TEST LEVEL OF RESPIRATORY PARAMETERS RELATED TO CORD IN THE EXPERIMENTAL AND CONTROL GROUP

Table 4.2.3a: Mean and mean percentage distribution of domain wise pre and post- of respiratory parameters regarding management of CORD

N=60

		Experimental (n=30)				**Control (n=30)**			
		Pretest		**Post-test**		**Pretest**		**Post-test**	
		Mean	**%**	**Mean**	**%**	**Mean**	**%**	**Mean**	**%**
History Collection	8	3.93	49.13	2.97	37.13	4.10	51.25	3.90	48.75
Observation	5	2.70	54	1.87	37.40	2.83	56.6	2.73	54.60
Auscultation	2	1.20	60	0.83	41.50	1.23	61.50	1.17	58.50
Palpation	1	0.47	47	0.20	20	0.50	50	0.47	47
Overall Score	16	8.30	51.88	5.87	36.69	8.66	54.13	8.27	51.69

Tables 4.2.3a reveals the mean and mean percentage distribution of domain wise pretest and posttest level of respiratory parameters. It shows that in the pretest and post-test, in both the groups, highest was identified for auscultation and the lowest score was for palpation related respiratory parameter symptom domain. In the post-test, the experimental group alone was found to show a marked reduction in the mean

A similar reduction was noted with regard to the overall mean percentage score of respiratory parameters (CORD symptoms) in the experimental group whereas the control group showed very minimal changes.

Table 4.2.3b: Frequency and percentage distribution of overall pre and post-test level of bio-physiological measures-peak expiratory flow rate (PEFR), spirometry, pulse oxymetry and respiratory rate of patients with CORD in the experimental and control group.

N=60

Bio-physiological measures	Experimental Group (n=30)				Control group (n=30)			
	Pre-test		Post-test		Pre-test		Post-test	
	n	%	n	%	n	%	n	%
PEFR								
Mild	4	13.3	17	56.7	3	10.0	5	16.7
Moderate	24	80	13	43.3	23	76.7	23	76.7
Severe	2	6.7	0	0	0.4	13.3	2	6.7
Spirometry (Inspiratory capacity)								
Mild difficulty	3	10	14	46.7	0.4	13.3	5	16.7
Moderate difficulty	21	70	16	53.3	20	66.7	21	70
Severe difficulty	6	20	0	0	0.6	20	4	13.3
Pulse Oxymetry (O_2 Saturation)								
Normal	4	13.3	16	53.3	4	13.3	6	20
Mild hypoxemia	17	56.7	10	33.3	16	53.3	16	53.3
Moderate hypoxemia	7	23.3	4	13.3	8	26.7	8	26.7
Severe hypoxemia	2	6	0	0	2	6.7	0	0
Respiratory rate (Breaths per minute)								
12-20	3	10	0	0	2	6.7	0	0
21-28	27	90	30	100	28	93.3	30	100

Table.4.2.3b shows the frequency and percentage distribution of overall pretest and post-test level of bio-physiological measures. With regard to Peak Expiratory Flow Rate (PEFR), in the experimental group, most of the samples had moderate PEFR level in the pretest which improved to mild level in the post-test. In the pre and post-test of the control group, the percentage of PEFR of most samples remained at moderate level. Spirometry (inspiratory capacity) percentage indicated that the samples in both the groups had moderate difficulty in both pretest and post-test. The pulse oxymetry (oxygen saturation) levels of most samples in the experimental group, in the pretest, showed mild hypoxia which improved to normal level in post-test. Most of the samples in the control group were found to have moderate hypoxemia in both pretest and post-test and the respiratory rate of majority of the samples in both the groups, in the pre-test and post-test was identified to be between 21-28 breaths/min..

Table.4.2.3c: Frequency and percentage distribution of pretest and post-test overall level of respiratory parameters in the experimental and control group

N=60

Respiratory parameters (CORD Symptoms)	Experimental Group (n=30)				Control Group (n=30)			
	Pretest		Post-test		Pretest		Post-test	
	n	%	n	%	n	%	n	%
Mild	11	36.7	22	73.3	12	40.0	14	46.7
Moderate	19	63.3	8	26.7	18	60	16	53.3
Severe	0	0	0	0	0	0	0	0

Table.4.2.3c reveals the frequency and percentage distribution of pretest and post-test overall level of respiratory parameters (CORD Symptoms) in the experimental and control group.

It shows that in the pre-test of the experimental group, 63.3% of the samples had moderate overall level of respiratory parameters (CORD Symptoms) which improved to 73.3% having mild symptoms in the post test. In the control group, the pretest and the post-test level of respiratory parameters remained at moderate level.

This indicates that after administration of intervention, the experimental group showed a significant reduction in the respiratory parameters (CORD Symptoms).

SECTION 4.3: EFFECTIVENESS OF NURSE NAVIGATED SELF-MANAGEMENT STRATEGIES ON KNOWLEDGE, SKILL AND RESPIRATORY PARAMETERS REGARDING MANAGEMENT OF CORD AMONG PATIENTS ATTENDING OPD IN THE EXPERIMENTAL AND CONTROL GROUP.

Table.4.3.1a: Comparison of pretest and post-test scores regarding knowledge, skill, respiratory parameters within the experimental and control group.

N=60

Group	Comparison of mean value						Paired t-test
	Pre-test		Posttest		Difference		
	Mean	SD	Mean	SD	Mean	SD	
Experimental							
Knowledge	10.93	1.31	19.47	1.98	8.54	2.47	**t=18.89 P=0.001***(S)**
Skill	5.10	1.86	11.37	2.70	6.27	3.53	**t=3.77 P=0.001***(S)**
Respiratory parameter	8.30	2.18	5.87	2.36	-2.43	1.96	**t=17.47 P=0.001***(S)**
Control							
Knowledge	11.10	2.89	12.13	2.98	1.03	2.51	t=1.93 P=0.001(NS)
Skill	5.40	1.71	5.70	1.91	0.3	0.81	t=1.86 P=0.06(NS)
Respiratory parameter	8.67	1.52	8.27	1.96	-0.4	0.70	t=1.66 P=0.10(NS)

***p<0.001 very highly significant NS-Non- significant**

Table.4.3.1a shows the comparison of pretest and posttest scores regarding knowledge, skill and respiratory parameters within the experimental and control group.

The comparison of pretest and post-test scores of knowledge, skill and respiratory parameters (CORD Symptoms) in the experimental and control group using Paired 't' test revealed that there was very high statistical significance at $p<0.001$ level with regard to all three variables in the experimental group. The control group did not show any statistical significance on comparison of the computed values.

This clearly indicates that the administration of Nurse Navigated Self-Management Strategies to the experimental group had a significant impact in enhancing their knowledge regarding CORD, skill in preforming the Buetyko Breathing Technique and influencing the reduction of CORD symptoms.

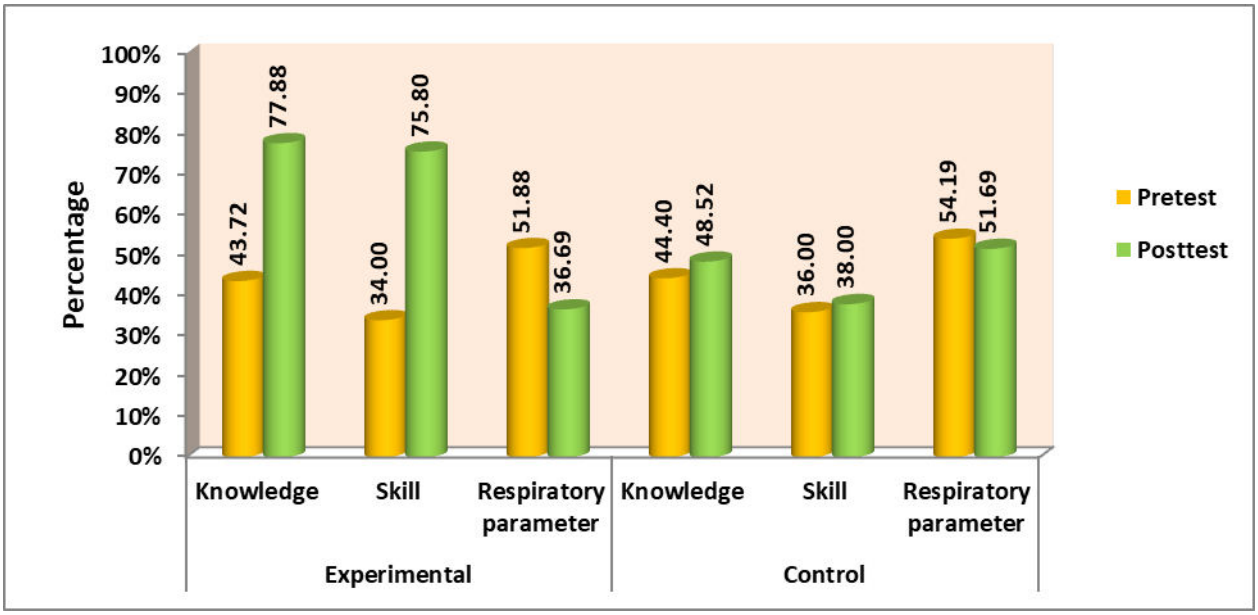


Fig 4.3: Comparison of overall pretest and post-test level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group

Figure 4.3 **s**hows the effectiveness of NNSMS on knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group. It depicts that the administration of Nurse Navigated Self-Management Strategies to the experimental group was effective in enhancing their knowledge regarding CORD, skill in preforming the Beutyko Breathing Technique and influencing the reduction of CORD symptoms. The control group did not show a significant variation with regard to all the three dependent variables mentioned above.

Table.4.3.1b: Comparison of pretest and post-test mean scores regarding knowledge, skill and respiratory parameters between the experimental and control group.

N=60

S. No	Variables of CORD	Pretest/ Post-test	Comparison of mean value					Independent t-test
			Experimental (n=30)		Control (n=30)		Mean Difference	
			Mean	SD	Mean	SD		
1.	Knowledge	Pretest	10.93	1.31	11.10	2.89	-0.17	t=0.28 P=0.77 (NS)
		Post-test	19.47	1.98	12.13	2.98	7.34	**t=11.23 P=0.001***(S)**
2.	Skill	Pretest	5.10	1.86	5.40	1.71	0.30	t=0.64 P=0.52 (NS)
		Post-test	11.37	2.69	5.70	1.91	5.67	**t=9.38 P=0.001*** **
3.	Respiratory parameters	Pretest	8.30	2.18	8.66	1.52	0.36	t=0.75 P=0.45(NS)
		Post-test	5.87	2.36	8.27	1.96	2.40	**t=4.28 P=0.01**(S)**

***p<0.001 very highly significant p=0.01** highly significant S- Significant NS-Non-significant

Table.4.3.1b. displays the comparison of pretest and posttest mean scores regarding knowledge, skill and respiratory parameters (CORD Symptoms) between the experimental and control group.

The comparison of pretest mean difference score of knowledge, skill and respiratory parameters (CORD Symptoms), between the experimental and control group, using independent‘t’ test, revealed that there was no statistical significance. In contrast, the comparison of the post-test mean difference score of knowledge and skill between the experimental and control group showed a very high statistical significance at $p<0.001$ level. With regard to the comparison of post-test mean difference score of respiratory parameters (CORD Symptoms) a high statistical significance at $p<0.01$ level was identified**.**

The above findings indicate that the administration of NNSMS by the investigator was effective in empowering the samples in the experimental group with adequate information on CORD management including the technique of Buetyko Breathing. The intervention was also effective in lowering the respiratory symptoms and thereby enhancing the overall well-being of CORD patients.

SECTION 4.4. CORRELATION BETWEEN MEAN DIFFERED LEVEL OF KNOWLEDGE, SKILL AND RESPIRATORY PARAMETERS IN THE EXPERIMENTAL AND CONTROL GROUP.

Table 4.4: Correlation between mean differed level of knowledge, skill and respiratory parameters.

N=60

Variables		Mean difference Mean±SD	Karl Pearson Correlation coefficient	Type of Correlation
Experimental group	Knowledge Vs. Skill	8.53±2.47 6.27±1.96	**r= 0.48 p=0.001*** **	**Positive moderate correlation**
	Knowledge Vs. Respiratory parameters	8.53±2.47 -2.43±3.53	**r= -0.37 p=0.01****	**Negative fair correlation**
	Skill Vs. Respiratory parameters	6.27±1.96 -2.43±3.53	**r= -0.46 p=0.01****	**Negative moderate correlation**
Control group	Knowledge Vs Skill	1.03±2.51 0.30±0.70	r = 0.17 P=0.46	Positive Poor correlation
	Knowledge Vs respiratory parameters	1.03±2.51 -0.40±0.81	r = -0.14 P=0.39	Negative poor correlation
	Skill Vs respiratory parameters	0.30±0.70 -0.40±0.81	r = 0.16 P=0.41	Negative poor correlation

"r" always lies between -1 to +1
r=0.0 – 0.2 (poor correlation), r=0.2 - 0.4 (fair correlation), r=0.4 - 0.6 (moderate correlation), r=0.6 – 0.8 (substantial correlation), r= 0.8 - 1.0 (strong correlation)
*** p<0.05 significant **p<0.001 highly significant ***p<0.001 very highly significant**

Table 4.4 reveals the correlation between mean differed level of knowledge, skill, and respiratory parameters score in the experimental and control group computed using Karl Pearson Correlation coefficient.

In the experimnetal group, the correlation between knowledge and skill revealed r=0.48 at p=0.01 which indicates that there was a positive moderate correlation. This implies that as the knowledge of the samples increased, the skill also improved.

The correlation between knowledge and respiratory parameters revealed that there was a negative fair correlation value r=-0.37 at p=0.01. It means that with improved knowledge there was a mild decrease in respiratory parameters (CORD symptoms).

The correlation between skill and respiratory parameters revealed that there was negative moderate correlation value r=-0.46 at p=0.01. This shows that as skill improved it had a moderate influence on the reduction of respiratory parameters (CORD symptoms).

In the control group with regard to correlation between knowledge and skill there was a positive poor correlation and there was a negative poor correlation between knowledge vs. respiratory parameters and skill Vs respiratory parameters which did not reveal any statistical significance.

These findings prove that the administration of NNSMS by the investigator enabled the samples in the experimental group to gain adequate awareness on CORD management and also skill in the technique of Beutyko Breathing. This influenced a desired improvement in the ability of the samples to manage their own health and the related symptoms of CORD.

SECTION 4.5: ASSOCIATION OF THE SELECTED BACKGROUND VARIABLES WITH MEAN DIFFERED LEVEL OF KNOWLEDGE, SKILL AND RESPIRATORY PARAMETERS REGARDING MANAGEMENT OF CORD IN THE EXPERIMENTAL AND CONTROL GROUP

Section 4.5.1: Association of the selected demographic variables with mean differed level of knowledge regarding management of CORD in the experimental and control group.

N=60

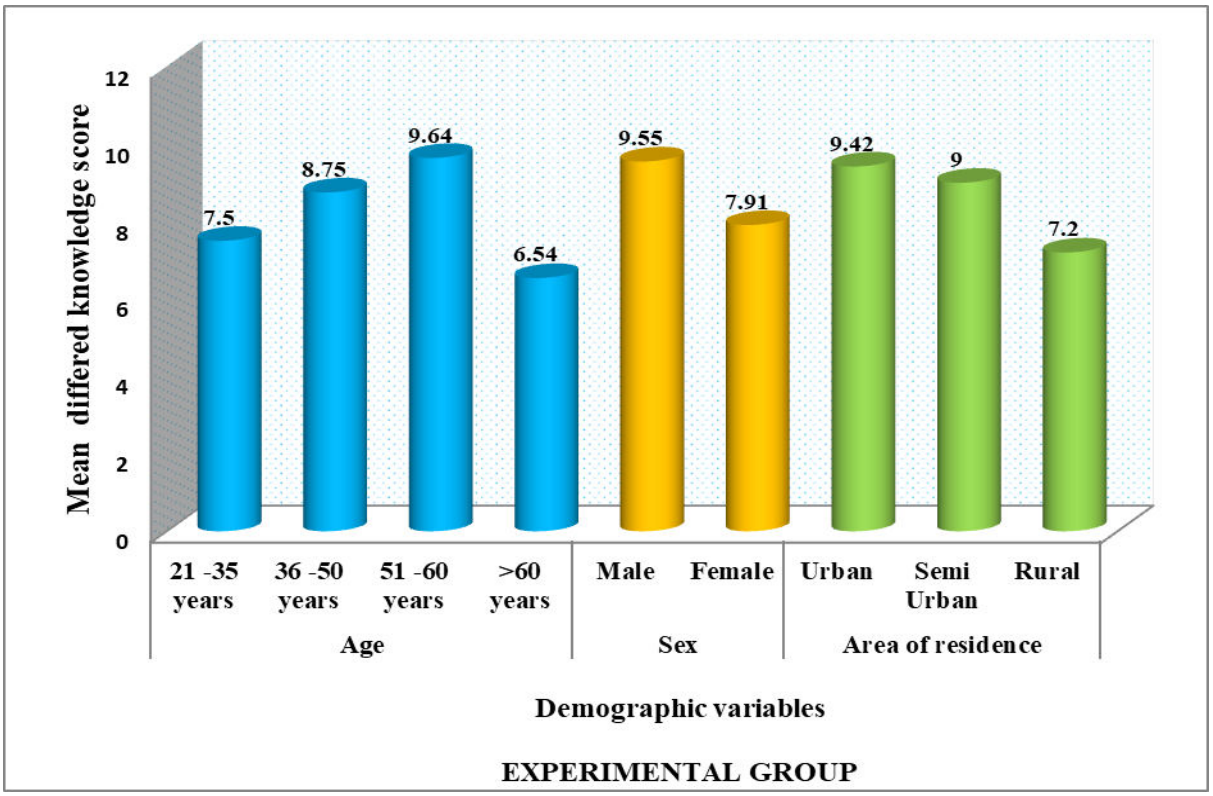


Fig 4.5.1: Association of selected demographic variables- age, gender and area of residence with mean differed level of knowledge regarding management of CORD in the experimental group.

The above figure 4.5.1 shows the association of selected demographic variables- age, gender and area of residence with the mean differed level of knowledge. It was identified that only these demographic variables of the experimental group had a statistically significant association with the mean differed level of knowledge of the samples. It reveals that samples aged between 51-60 years, males and those living in urban area had gained more knowledge than other samples in the experimental group.

None of the variables in the control group showed any statistically significant association with the mean differed level of knowledge of the samples.

Section 4.5.2: Association of the selected demographic variables with mean differed level of skill regarding management of CORD in the experimental and control group

N=60

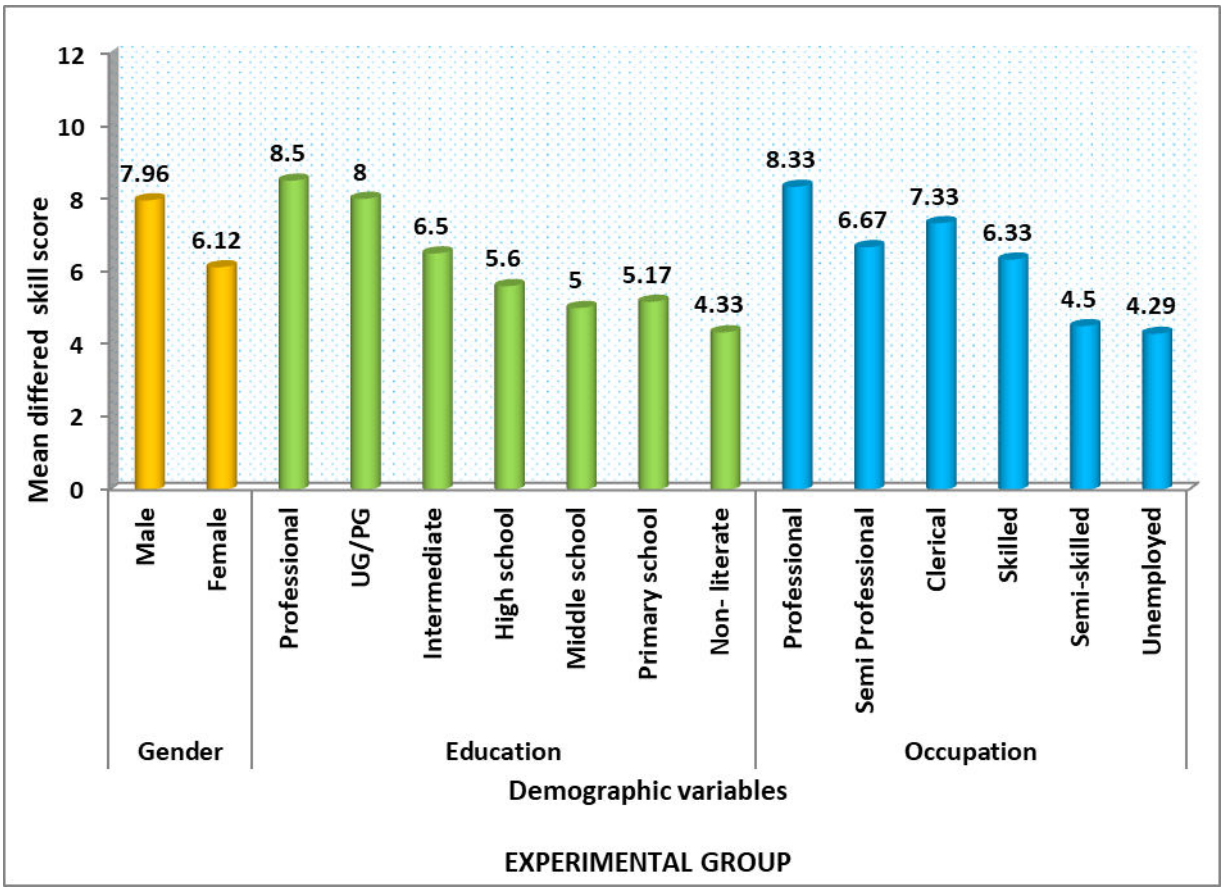


Fig 4.5.2: Association of selected background variables such as gender education and occupation with mean differed level of skill regarding management of CORD in the experimental group.

The above figure 4.5.2 shows the association of selected demographic variables- gender, education and occupation with the mean differed level of skill, calculated using one-way Analysis of variance F-test and student independent t-test.

It was identified that in the experimental group, the variable gender showed statistically significant association, while education and occupation revealed highly statistical significant association with the mean differed level of skill. The figure reveals that males, samples who had completed their professional studies and those holding professional jobs had gained more skill than other samples in the experimental group.

None of the variables in the control group showed any statistically significant association with the mean differed level of skill of the samples.

Section 4.5.3: Association of the selected demographic variables with mean differed level of respiratory parameters regarding management of CORD in the experimental and control group

N=60

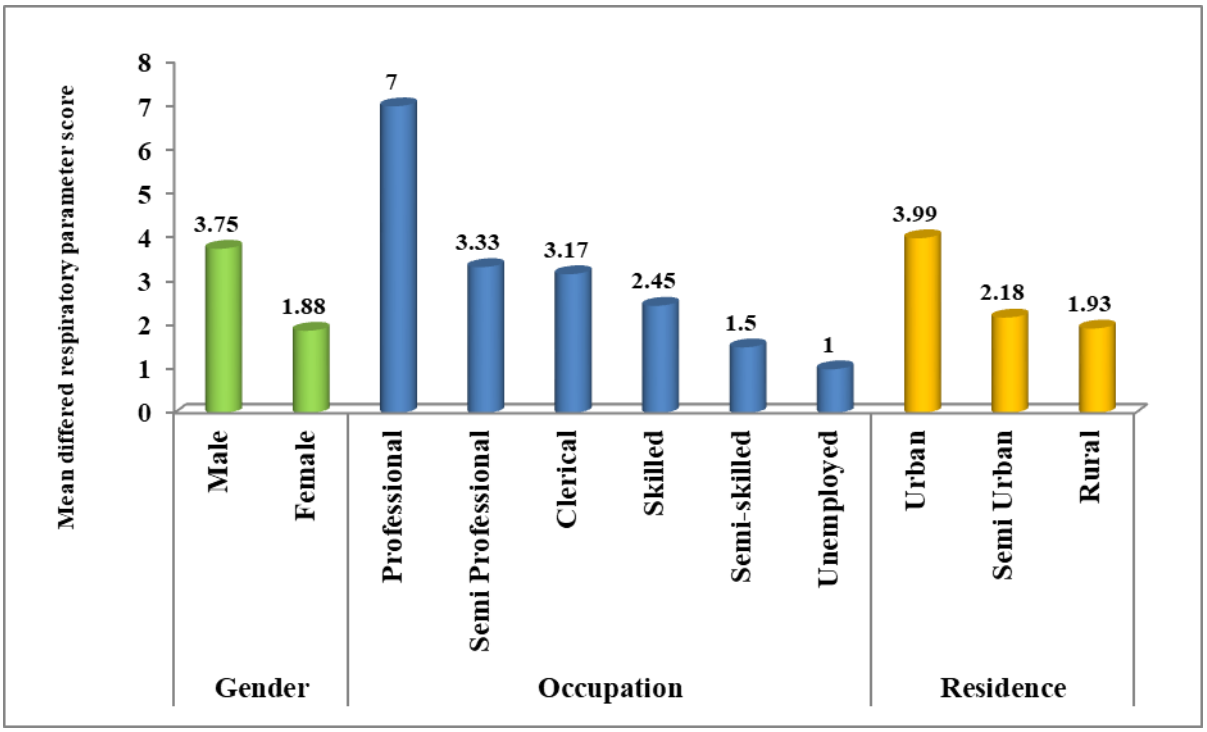


Fig 4.5.3: Association of selected background variables such as, gender, occupation and residence with mean differed level of respiratory parameters regarding management of CORD in the experimental and control group.

The above figure 4.5.3 shows the association of selected demographic variables- gender, occupation and area of residence with the mean differed level of respiratory parameters (CORD symptoms). It was identified that only these variables of the experimental group had a statistically significant association with the mean differed level of respiratory parameters of the samples. Thus males, professionals and those residing in urban areas had a comparatively better reduction in their respiratory parameters than other samples in the experimental group.

None of the variables in the control group showed any statistically significant association with the mean differed level of respiratory parameters of the samples.

The above findings reveal that, in the experimental group, samples who were middle aged, males, residing in urban areas, well-educated and holding professional jobs benefited more from the Nurse Navigated Self-Management Strategies, administered by the investigator, by gaining more knowledge and skill on CORD and Buetyko Breathing Technique which in turn influenced a marked reduction in the respiratory parameters (CORD symptoms).

CHAPTER - 5

DISCUSSION

This chapter discusses the analytical findings of the study based on the objectives, the review of literature and null hypotheses specified in the study. The current study was undertaken to evaluate the Effectiveness of Nurse Navigated Self-Management Strategies on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Disease among patients attending Outpatient Department in selected settings.

5.1 The findings of the background variables of patients with CORD in the experimental and control group.

The background variables considered in the experimental group were age in years, gender, educational status, occupation, family monthly income (in rupees) total members in the family including the patient, area of residence, types of fuel used for cooking. The clinical variables were family history of CORD, specify relationship with affected family member, smoking status, exposure to air pollutants, type and chronicity, past history of acute respiratory infection, history of allergy, specify (upper respiratory infection.)ongoing treatment for CORD, and specify the regularity of treatment and co-morbid illness. The anthropometric variables, height, weight, and BMI.

Demographic variables showed the frequency and percentage distribution of selected demographic variables such as age, gender, education and occupation in the experimental and control group. Many of the samples were above 65 years of age in the experimental group and between51-65 years in the control group. Both the groups had more number of females. Greater number of samples in the experimental and control group had completed their degree/professional education and were employed as skilled workers.

Table.4.1.1b presents the frequency and percentage distribution of demographic variables-family income, family size, area of residence, types of fuel used for cooking in the experimental and control group. It showed that many of the samples were drawing a salary of Rs.5001-15000 in both the groups. There were a total of 5 members in the

family of most samples in the experimental group, and 4 family members in the control group. Most of the samples in both the groups were living in urban area and were using LPG for cooking.

The clinical variables showed that many of the samples had family history of CORD which was mostly through paternal origin in the experimental group and maternal origin in the control group. Many of the samples were non-smokers in both the groups and majority of samples had exposure to air pollutants, mostly affected with industrial/power plant.Most of the samples in both groups had chronicity of CORD with most reporting chronicity of 5-8 years duration.

Many of the samples in the experimental group had Acute Respiratory infection 20 days back and 10 days back in the control group.The history of allergy was reported by 50% and 60% of samples in the experimental and control group respectively. Most common type of allergen reported in the experimental group was mixed type and house dust, whereas in the control group allergy to mixed type and animal dander was equally reported. Only about 50% of samples in both groups were taking regular treatment and majority of samples in both the groups had comorbid illness.

Anthropometric variables reveals, the height of many of the samples was between 140-150 cms in the experimental group, and 151-160 cms in the control group. In both the groups, weight of most samples was between 56-65 kgs and BMI was found to be normal.

5.2 The first objective was to assessthe pretest and post-test level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.

Data findings presented in table 4.2.1a.indicated that most samples in the experimental group had more knowledge regarding risk factors for CORD in the pretest and regarding diagnostic evaluation complication and management in the post-test. In the control group, knowledge regarding diagnostic evaluation was found to be the highest in both the pretest and post-test.

The overall mean percentage in the experimental group was 43.72 in the pretest and this improved to 77.88 in post-test, whereas there was not much variation in the overall mean percentage of the control group.

The overall knowledge level of majority of the samples in the experimental group, in the pretest was 86.7% which was found to improve further in the post-test with 73.3% of samples having adequate level of knowledge. In contrast, the control group had inadequate level of knowledge in both the pretest and post-test with an overall score of 83.3% and 76.7% respectively. This shows that both the groups were homogenous with regard to their level of knowledge in the pretest but after the administration of Nurse Navigated Self-Management Strategies, the experimental group showed a marked improvement in the level of knowledge, in the post-test, in comparison to the control group.

The data findings in the table 4.2.2a revealed that in the pretest and post-test, both the group were observed to have greater skill in performing control pause of the Buetyko breathing technique. The experimental group alone showed an improvement in the performance of relaxed breathing in the post-test.

The overall pretest and post-test level of skill in the experimental and control group displayed that in pretest, 60% of samples in the experimental group needed improvement in skill, whereas in posttest 70% of them had improved to good skill. With regard to the control group, 53.3% of the samples needed improvement in skill in the pretest and this showed a minimal change with 56.7% of the samples demonstrating fair skill in performing the exercise techniques.

This indicates that administration of Nurse Navigated Self-Management Strategies on CORD which included demonstration and re-demonstration of Buetyko Breathing Technique had a marked impact in improving the overall level of skill of the experimental group

Tables 4.2.3a revealed that the mean and mean percentage distribution of domain wise pretest and posttest level of respiratory parameters. It showed that in the pretest and post-test, in both the groups, highest was identified for auscultation and the lowest score

was for palpation related respiratory parameter symptom domain. In the post-test, the experimental group alone was found to show a marked reduction in the mean. A similar reduction was noted with regard to the overall mean percentage score of respiratory parameters (CORD symptoms) in the experimental group whereas the control group showed very minimal changes.

The overall mean percentage of pretest in the experimental group was 8.30 and the post-test mean score was 5.87 it showed the improvement respiratory function, and in control group very minimum changes was seen in the respiratory parameters.

Table.4.2.3b showed the frequency and percentage distribution of overall pretest and post-test level of bio-physiological measures. With regard to Peak Expiratory Flow Rate (PEFR), in the experimental group, most of the samples had moderate PEFR level in the pretest which improved to mild level in the post-test. In the pre and post-test of the control group, the percentage of PEFR of most samples remained at moderate level.Spirometry (inspiratory capacity) percentage indicated that the samples in both the groups had moderate difficulty in both pretest and post-test.

The pulse oxymetry (oxygen saturation) levels of most samples in the experimental group, in the pretest, showed mild hypoxia which improved to normal level in post-test. Most of the samples in the control group were found to have moderate hypoxemia in both pretest and post-test and the respiratory rate of majority of the samples in both the groups, in the pre-test and post-test was identified to be between 21-28 breaths/min.

5.3 The second objective was to assess the effectiveness of Nurse Navigated Self-Management Strategies on knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group

Table.4.2.3c reveals the frequency and percentage distribution of pretest and post-test overall level of respiratory parameters (CORD Symptoms)in the experimental and control group. It shows that in the pre-test of the experimental group, 63.3% of the samples had moderate overall level of respiratory parameters(CORD Symptoms)which improved to 73.3% having mild symptoms in the post test. In the control group, the pretest and the post-test level of respiratory parameters remained at moderate level. This

indicates that after administration of intervention, the experimental group showed a significant reduction in the respiratory parameters (CORD Symptoms).

Table.4.3.1a shows the comparison of pretest and posttest scores regarding knowledge, skill and respiratory parameters within the experimental and control group. The comparison of pretest and post-test scores of knowledge, skill and respiratory parameters (CORD Symptoms) in the experimental and control group using Paired 't' test revealed that there was very high statistical significance at $p<0.001$ level with regard to all three variables in the experimental group. The control group did not show any statistical significance on comparison of the computed values. This clearly indicates that the administration of Nurse Navigated Self-Management Strategies to the experimental group had a significant impact in enhancing their knowledge regarding CORD, skill in performing the Buetyko Breathing Technique and influencing the reduction of CORD symptoms.

Figure 4.3 showedthe effectiveness of NNSMS on knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group. It depicts that the administration of Nurse Navigated Self-Management Strategies to the experimental group was effective in enhancing their knowledge regarding CORD, skill in performing the Buetyko Breathing Technique and influencing the reduction of CORD symptoms. The control group did not show a significant variation with regard to all the three dependent variables mentioned above.

Table.4.3.1b. displayed the comparison of pretest and posttest mean scores regarding knowledge, skill and respiratory parameters(CORD Symptoms)between the experimental and control group.

The comparison of pretest mean difference score of knowledge, skill and respiratory parameters(CORD Symptoms), between the experimental and control group, using independent's' test, revealed that there was no statistical significance. In contrast, the comparison of the post-test mean difference score of knowledge and skil lbetween the experimental and control group showed a very high statistical significance at $p<0.001$level. With regard to the comparison of post-test mean difference score of respiratory parameters(CORD Symptoms)a high statistical significance at $p<0.01$level.

The administration of NNSMS by the investigator was effective in empowering the samples in the experimental group with adequate information on CORD management including the technique of Buetyko Breathing. The intervention was also effective in lowering the respiratory symptoms and thereby enhancing the overall well-being of CORD patients.

The above findings of this study are supported by the following study**:**

Mathew, Jyothy, Silva Fatima,[86]et al. (2011A true experimental design with pretest- posttest control group design. was conducted. Buetyko breathing exercise was provided to the experimental group. Results were found that Majority of the sample (95%) were above 50 years. Out of 40, (67.5%) were males and (32.5%) were females. (62.5%) of samples were industrial workers, and (17.5%) were Beedi rollers. Majority of the subjects (72.5%) were from rural area and (27.5%) were from urban area. Among 40 samples majority (67.5%) were smokers and (32.5) were nonsmokers. Following the intervention (Buetyko breathing Exercise) the mean effectiveness score of FVC in the experimental group was found to be 23.80 and in control group the score was 7.70.

Hence the **Null hypothesis NH_1** stated that **'There is no significant effect of Nurse Navigated Self-Management Strategies on the level of knowledge, skill and respiratory parameters regarding management of CORD in experimental and control group, and hence the intervention was found to be significance' at p<0.01 level** was **not accepted for experimental group** and **accepted for the control group.**

5.4 Fourth objective was to correlate the mean differed level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.

Table 4.4 reveals the correlation between mean differed level of knowledge, skill, and respiratory parameters score in the experimental and control group computed using Karl Pearson Correlation coefficient. In the experimnetal group, the correlation between knowledge and skill revealed r=0.48 at p=0.01 which indicates that there was a positive moderate correlation. This implies that as the knowledge of the samples increased, the skill also improved. The correlation between knowledge and respiratory parameters revealed that there was a negative fair correlation value r=-0.37 at p=0.01.It means that

with improved knowledge there was a mild decrease in respiratory parameters (CORD symptoms).

The correlation between skill and respiratory parameters revealed that there wasnegative moderate correlation value r=-0.46 at p=0.01.This shows that as skill improved it had a moderate influence on the reduction of respiratory parameters (CORD symptoms).In the control group with regard to correlation between knowledge and skill there was a positive poor correlation and there was a negative poor correlation between knowledge vs. respiratory parameters and skill Vs respiratory parameters which did not reveal any statistical significance.

These findings prove that the administration of NNSMS by the investigator enabled the samples in the experimental group to gain adequate awareness on CORD management and also skill in the technique of Buetyko Breathing. This influenced a desired improvement in the ability of the samples to manage their own health and the related symptoms of CORD.

Hence the **null Hypothesis NH_2**stated earlier that **'There is no significant relationship between the mean differed level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group, and hence** was **not accepted for experimental group** and **accepted for the control group.**

5.6 Fifth objectives was to associate the selected demographic variables with mean differed level of knowledge skill and respiratory parameters regarding management of CORDin the experimental and control group

Figure 4.5.1 presented the association of selected demographic variables-age, gender and area of residence with the mean differed level of knowledge. It was identified that only these demographic variables of the experimental group had a statistically significant association with the mean differed level of knowledge of the samples. It reveals that samples aged between 51-60 years, males and those living in urban area had gained more knowledge than other samples in the experimental group.

Figure 4.5.2 showed the association of selected demographic variables- gender, education and occupation with the mean differed level of skill, calculated using one-way Analysis of variance F-test and student independent t-test.

It was identified that in the experimental group, the variable gender showed statistically significant association, while education and occupation revealed highly statistical significant association with the mean differed level of knowledge. The figure reveals that males, samples who had completed their professional studies and those holding professional jobs had gained more knowledge than other samples in the experimental group.

Figure 4.5.3 showed the association of selected demographic variables- gender, occupation and area of residence with the mean differed level of respiratory parameters (CORD symptoms).It was identified that only these variables of the experimental group had a statistically significant association with the mean differed level of respiratory parameters of the samples. The figure depicts that males, samples who were employed as professionals and those residing in urban areas had gained more knowledge than other samples in the experimental group.

None of the variables in the control group showed any statistically significant association with the mean differed level of knowledge, skill and respiratory parameters of the samples.

The above findings reveal that, in the experimental group, samples who were middle aged, males, residing in urban areas, well-educated and holding professional jobs benefited more from the Nurse Navigated Self-Management Strategies, administered by the investigator, by gaining more knowledge and skill on CORD and Buetyko Breathing Technique which in turn influenced a marked reduction in the respiratory parameters (CORD symptoms).

Hence the **Null HypothesisNH_3**stated that**'There is no significant association of selected demographic variables with the mean differed level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group, and hence** was **not accepted for the experimental group** for **age,**

gender and area of residence with regard to knowledge; gender, education and occupation with regard to skill; gender, occupation and area of residence with regard to respiratory parameters was not accepted and for other variables in the experimental and control group was accepted.

This draws the conclusion for the study that Nurse Navigated Self -Management Strategies was proved to be an effective in enhancing the knowledge, skill and reduction in the respiratory parameter symptoms. The adopted conceptual frame work on Imogene King's Theory of Goal Attainment by the investigator for the present study was a blueprint to understand the concept thereby the investigator was able to derive the effectiveness of Nurse Navigated Self -Management Strategies on knowledge, skill and respiratory parameters reduction.

SUMMARY, CONCLUSION, IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS

This chapter comprises the summary, conclusion, implications, recommendations, and limitations of this study based on the objectives selected.

6.1SUMMARY

Chronic Obstructive Respiratory Disease (CORD) is one of several chronic diseases that are becoming increasingly problematic worldwide. Their increasing burden and monetary cost are a particular risk to low and middle-income countries. If trends continue unabated, chronic diseases have the potential to overwhelm health systems and state economies. Several high-level international organizations have expressed their concern about the impact of chronic diseases on health systems.

The purpose of the study was to improve the home management and to reduce the frequent revisit to the hospital.

The objectives of the study were

1. To assess and compare the pretest and posttest level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.
2. To assess the effectiveness of Nurse Navigated Self-Management Strategies on knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.
3. To correlate the mean differed level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.
4. To associate the selected demographic variables with mean differed level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group.

The study was based on the assumption that

1. Patient suffering from chronic obstructive respiratory diseases has lack of knowledge regarding home care management.

2. Nurse Navigated Self-management Strategies may have an effect on knowledge, skill and respiratory parameters regarding CORD management**.**

The null hypotheses formulated were

NH_1: There is no significant effect of Nurse Navigated Self-Management Strategies on the level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group at $p<0.05$ level of significance.

NH_2: There is no significant relationship between the mean differed level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group at $p<0.05$ level of significance.

NH_3: There is no significant association of selected demographic variables with the mean differed level of knowledge, skill and respiratory parameters regarding management of CORD in the experimental and control group at $p<0.05$ level of significance.

The study was strongly rooted on the review of literature, professional experience and expert guidance from the field of Medical-Surgical Nursing, it also platform to integrate theories in to a conceptual framework aiding to design the methodology and developing the tool for data collection.

In order to provide a bird's eye view regarding the relation of various aspects of the study, the investigator had adopted and integrated a framework based on Imogene King's Goal Attainment Theory.

The researcher adopted a quasi-experimental study to assess the effectiveness of Nurse Navigated Self-Management Strategies (NNSMS) on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases (CORD)in the experimental and control group. Non probability purposive sampling technique used to select 60 samples.

The data collection tool constructed for this study has four parts:Part-1**:** Background variables;Part-2**:** Structured interview schedule on knowledge regarding

CORD; Part-3**:** Observational checklist for assessment of skill in performing Buetyko breathingand Part-4:Respiratory parameters data sheet.

The interventional tool, NNSMS, prepared by the investigator comprised the comprehensive nursing intervention initiated by the nurse researcher and administered to the samples in the form of IEC regarding CORD management and Buetyko breathing exercise. This was delivered via video assisted teaching given in small groups of 4-5 patients for 20 minutes followed by demonstration of Buetyko breathing exercise for 15 minutes and re-demonstration of Buetyko breathing exercise by the samples.

The content validity of the data collection and intervention tool was obtained from experts in Nursing-3, Medicine-1, and pulmonology -1. The reliability of the tool was established by inter-rater method for knowledge questionnaire and observational check list. The feasibility and practicability of the study was analyzed by conducting a pilot study on 10 samples at St. Antony's Hospital, Madhavaram, Chennai.

The data collection for the main study was done at Medical OPDsof Sacred Heart Hospital, Tuticorin for the experimental group and St. Antony's Hospital, Madhavaram, Chennai for the control group, respectively. Non probability purposive sampling technique was used to select the sample of 60 patients with CORD who fulfilled the inclusion criteria. Ethical considerations were adhered to throughout the study.

The data collected was analysed and interpreted based on the objectives and null hypothesis using descriptive and inferential statistics. The findings revealed that there was a significant improvement in the level of knowledge and skill and reduction inrespiratory parameters (CORD symptoms)of the experimental group after the administration and incorporation of NNSMS.

The major findings of the study revealed that

Descriptive and inferential statistics were used to analyze the collected data. Interpretation and discussion were based on the objectives, null hypothesis, and conceptual framework and from various literature reviews

- The overall knowledge level of majority of the samples, 86.7%, in the experimental group, was inadequate in the pretest, which was found to improve further in the post-test with 73.3% of samples having adequate level of knowledge. In contrast, in the control group, 83.3% and 76.7% samples had inadequate level of knowledge in the pretest and post-test respectively. This showed that the administration of Nurse Navigated Self-Management Strategies to the experimental group influenced a marked improvement in their level of knowledge in comparison to the control group.

- With regard to the overall level of skill in the experimental and control group, in pretest, 60% of samples in the experimental group needed improvement in skill, whereas in posttest 70% of them had improved to good skill. In the control group, 53.3% of the samples needed improvement in skill in the pretest and this showed a minimal change with 56.7% of the samples demonstrating fair skill in performing the exercise techniques.

- The analysis of overall level of respiratory parameters (CORD Symptoms)in the experimental and control group showed that in the pre-test of the experimental group, 63.3% of the samples had moderate overall level of respiratory parameters (CORD Symptoms) which improved to 73.3% having mild symptoms in the post test. In the control group, the pretest and the post-test level of respiratory parameters remained at moderate level. This indicates that after administration of intervention, the experimental group showed a significant reduction in the respiratory parameters (CORD Symptoms).

- The comparison of mean differed pretest and post-test scores of knowledge, skill and respiratory parameters (CORD Symptoms) in the experimental and control group using Paired ‘t’ test revealed that there was very high statistical significance at $p<0.001$ level with regard to all three variables in the experimental group. The control group did not show any statistical significance on comparison of the computed values.

- The comparison of pretest mean differed score of knowledge, skill and respiratory parameters (CORD Symptoms), between the experimental and control group, using

independent ‘t’ test, revealed that there was no statistical significance. In contrast, the comparison of the post-test mean difference score of knowledge and skill between the experimental and control group showed a very high statistical significance at p<0.001level. With regard to the comparison of post-test mean difference score of respiratory parameters (CORD Symptoms) a high statistical significance at p<0.01level was identified**.**

- In the experimnetal group, the correlation between knowledge and skill revealed r=0.48 at p=0.01 which indicates that there was a positive moderate correlation. This implies that as the knowledge of the samples increased, the skill also improved. The correlation between knowledge and respiratory parameters revealed that there was a negative fair correlation value r=-0.37 at p=0.01. It means that with improved knowledge there was a mild decrease in respiratory parameters (CORD symptoms). The correlation between skill and respiratory parameters revealed that there wasnegative moderate correlation value r=-0.46 at p=0.01. This shows that as skill improved it had a moderate influence on the reduction of respiratory parameters (CORD symptoms).

- In the control group with regard to correlation between knowledge and skill there was a positive poor correlation and there was a negative poor correlation between knowledge vs. respiratory parameters and skill vs respiratory parameters which did not reveal any statistical significance.

- The association of selected demographic variables with the mean differed level of knowledge revealed that age, gender and area of residence of the experimental group had a statistically significant association with the mean differed level of knowledge of the samples. It reveals that samples aged between 51-60 years, males and those living in urban area had gained more knowledge than other samples in the experimental group.

- It was identified that in the experimental group, the variable gender showed statistically significant association, while education and occupation revealed highly statistical significant association with the mean differed level of skill. The figure

reveals that males, samples who had completed their professional studies and those holding professional jobs had gained more skill than other samples in the experimental group.

- Association of selected demographic variables with the mean differed level of respiratory parameters (CORD symptoms) showed that gender, occupation and area of residence of the experimental group had a statistically significant association with the mean differed level of respiratory parameters of the samples. Thus males, professionals and those residing in urban areas had a comparatively better reduction in their respiratory parameters than other samples in the experimental group.

These findings prove that the administration of NNSMS by the investigator enabled the samples in the experimental group to gain adequate awareness on CORD management and also skill in the technique of Buetyko Breathing. This influenced a desired improvement in the ability of the samples to manage their own health and the related symptoms of CORD.

6.2 CONCLUSION

The current study assessed the effectiveness of Nurse Navigated Self-Management Strategies on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases in the experimental and control group.

The study revealed that in comparison to the control group, the experimental group showed a significant improvement in the level of knowledge, skill and improvement in reduction respiratory parameters (CORD symptoms) following the administration of NNSMS, there by concluding the NNSMS was effective in enabling the patients to gain knowledge, skill and in reduction in respiratory parameters and home management of CORD.

6.3 IMPLICATIONS

The investigator has drawn the following implications from the study in the field of nursing practice, nursing education, nursing administration and nursing research.

6.3.1 Nursing Practice

Nurses play a vital role in educating the patients and improve their knowledge, skill and respiratory parameters to improve the home care management.

Nurses have a professional responsibility in educating the patients that encompasses the patient for better home management. This can be facilitated by.

- The nursing personal can be trained regarding NNSMSS home care management and Buetyko breathing Technique, in-order to teach to the patients.
- The nursing personal can implement the interventions of NNSMS in to diagnostic area for the CORD patients.
- The Hospital authorities can print the posters of CORD and stick to the walls of the OPD.
- Print pamphlet and booklet; place it at the OPD for the patient to read.

6.3.2 Nursing education

- The student can learn NNSMS on CORD and Buetyko Breathing Technique as a part of her requirement that can be incorporated in her health teaching.
- The student can take the case study, and teach the patient and the relatives of the CORD patient, as a health education topic on NNSMS and Buetyko Breathing Role play can be played on topic of CORD and its management including and Buetyko Breathing Technique by the students in the college, Hospital and community.
- Symposium and workshops can be conducted in the educational set up, by the students on NNSMS on CORD.

6.3.3Nursing Administration

- The nurse administrator can give positive reinforcement on NNSMS on CORD.
- Nurse administrator can organize in-service education on NNSMS and Buetyko breathing technique on CORD patients.
- The OPD Nurses can teach and high-light the health promotion strategies on NNSM and home care management of CORD.
- Administrator of the institution should make arrangement adjacent to the OPD for the teaching of NNSMS and Buetyko Breathing Technique on CORD.

- The study finding should informed to the both setting, the content of the study and the book let prepared to be given to the administrator, for the referral of CORD patient.
- Family based case study (patients with CORD and at risk) can be taken as a family unit to implement the intervention.
- Create awareness in the Family and community, regarding the risk factors of CORD and preventive measures.

6.3.4 Nursing Research:

- The findings of the study can be disseminated through conferences seminars and by publishing in journals and websites.
- Multiple comprehensive intervention focused, an all the aspects of CORD, the study can be undertaken.
- Encourage the persons, who are directly involved in the patient care, can contact research center.
- Study can be under taken, regarding challenges faced by the patient.
- Study can be done on factors promoting and hindering in incorporating the NNSMS.
- Risk can be identified in the occupational smokers and in the occupational hazards, where the study can be under taken.
- Expand the research in studying a larger population.
- This study can be done in the community set up
- Nurse researcher should encourage the staff nurses to implement the research findings

6.4 PLANS FOR RESEARCH DISSEMINATION

The research findings will be disseminated through podium presentation either national or international conference and will be published in indexed journals.

6.5 PLANSFOR RESEARCH UTILIZATION

- The research findings will be incorporated in patient care at the level of home care and hospital of the selected study settings. .
- These research findings can also be utilized in the chronic disease OPD of Omayal Achi Community Health Centre and its adopted villages.

6.6 RECOMMENDATIONS

- Buetyko breathing technique can be learned by every nurse in the hospital and it can be taught to the patient with CORD at the time discharge.
- The nurse investigator encourages the hospital to keep booklets at free of cost.
- Similar study in a larger population.
- Awareness programs could be conducted at community level,
- The investigator can motivate the staff to involve in the health education programme.
- A similar study can be carried out in **hospital setting** especially in respiratory OPD and among relatives of patients with CORD.
- A similar study can be carried out to an industry which has occupational hazards.

6.7 LIMITATION

- The investigator found difficulty in gathering the patients into groups for administering the NNSMS.
- Reviews

REFERENCES

1. Wikipedia.Available from: https://en.wikipedia.org.
2. World Health Statistics 2012, WHO/ISBN ,978 92 4 156444, Printed in France
3. WHo.int, http://www.who.int/nmh/publications/ncd_report_chapter1.pdf.
4. WHO | COPD predicted to be third leading cause of death in 2030 Who.int. 2018 http://www.who.int/respiratory/copd/World_Health_Statistics_2008/en/.
5. Bing.com. 2018: https://www.bing.com/cr
6. https://www.bellinghamherald.com/living/health fitness/article210206549.html.
7. Cukic V, Lovre V, Dragisic D, Ustamujic A. Asthma and Chronic Obstructive Pulmonary Disease (Copd) and #8211; Differences and Similarities. Materia Socio Medica. 2012;24(2):100
8. Perez-Padilla R, Wehrmeister F, Celli B, Lopez-Varela M, Montes de Oca M, Muiño A et al. Reliability of FEV1/FEV6 to Diagnose Airflow Obstruction Compared with FEV1/FVC:
9. The PLATINO Longitudinal Study. PLoS ONE. 2013;8(8):e67960.
10. http://www.who.int/nmh/publications/ncd_report_chapter1.pdf.
11. GARD – A comprehensive approach: WHO report 2012, WHO Library, Geneva
12. Ayiner A, Alzaabi A, Obeidat N, Nejjari C, Beji M, Uzaslan E et al. Attitudes and beliefs about COPD: Data from the BREATHE study. Respiratory Medicine. 2012;106:S60-S74.
13. Carlsen H, Gislason T, Benediktsdottir B, Kolbeinsson T, Hauksdottir A, Thorsteinsson T et al.A survey of early health effects of the Eyjafjallajökull 2010 eruption in Iceland: a Population-based study. BMJ Open. 2012;2(2):e000343
14. GARD – A comprehensive approach: WHO report 2007, WHO Library, Geneva.
15. GARD – A comprehensive approach: WHO report 2012, WHO Library, Geneva
16. Singh A, Ladusingh L. Prevalence and Determinants of Tobacco Use in India: Evidence from Recent Global Adult Tobacco Survey Data. PLoS ONE. 2014;9(12):e114073

17. H, Lee Y. Prevalence and Risk Factors of Chronic Obstructive Pulmonary Disease among Nonsmokers: Fifth Korea National Health and Nutrition Examination Survey (2010–2012). Osong Public Health and Research Perspectives. 2016;7(6):385-393.
18. Oh H, Lee Y. Prevalence and Risk Factors of Chronic Obstructive Pulmonary Disease among Nonsmokers: Fifth Korea National Health and Nutrition Examination Survey
19. Doney B, Hnizdo E, Syamlal G, Kullman G, Burchfiel C, Martin C et al. Prevalence of Chronic Obstructive Pulmonary Disease Among US Working Adults Aged 40 to 70 Years. Journal of Occupational and Environmental Medicine. 2014; 56(10):1088-1093.
20. Mahmud T, Bokhari SN, Aasim M. Comparison of frequency of undiagnosed chronic obstructive pulmonary disease in current or former tobacco smokers having ischaemic heart disease. . Indian J Chest Dis Allied Sci. 2012 Apr-Jun; 54(2):111-6.
21. Russo M, Santarelli D, O'Rourke D. The physiological effects of slow breathing in the healthy human. Breathe. 2017;13(4):298-309.
22. Rogan A, Marsden J, Freeman J, Kent B. Effectiveness of non-pharmacological interventions in treating orthostatic hypotension in the elderly and people with a neurological condition. JBI Database of Systematic Reviews and Implementation Reports. 2017;15(4):948-960.
23. Russo M, Santarelli D, O'Rourke D. The physiological effects of slow breathing in the healthy human. Breathe. 2017;13(4):298-309.
24. Buteyko Method [Internet]. Buteyko.com. 2018
25. https://s3.amazonaws.com/academia.edu.documents/50202965/Nursing_Theories_and_Nursing.Nursinng_Practice___third Edition_
26. Polit D, Beck C, Resource manual for nursing research, generating and assessing evidence.for nursing practice, tenth edition. Philadelphia, Pa: Wolters Kluwer.
27. Chronic obstructive pulmonary disease En.wikipedia.org. 2018 https://en.wikipedia.org/wiki/Chronic_obstructive_pulmonary_disease.
28. Chronic obstructive pulmonary disease. En.wikipedia.org. 2018 https://en.wikipedia.org/wiki/Chronic_obstructive_pulmonary_disease.
29. Osrjournals.org. Chronic obstructive pulmonary diseaseEn.wikipedia.org. 2018 August 2018.

30. Lewis et al. Medical Surgical Nursing assessment and management of clinical problems; Elsevier India Private Limited; Haryana, 2011; Pp 608.
31. Stephens M, Yew K. Diagnosis of Chronic Obstructive Pulmonary Disease Aafp.org. https://www.aafp.org/afp/2008/0701/p87.html.
32. COPD - Symptoms and causes Mayo Clinic. 2018https://www.mayoclinic.org/ diseases- conditions/copd/symptoms-causes/syc-20353679.
33. http://www.who.int/respiratory/copd/management/en/ WHO, COPD. ma Management018
34. WHO | COPD management Whohttp://www.who.int/respiratory/copd/ management/en/
35. Desforges J, Gardner P, Schaffner W. Immunization of Adults. New England Journal of Medicine. 1993;328(17):1252-1258.
36. Desforges J, Gardner P, Schaffner W. Immunization of Adults. New England Journal of Medicine. 1993;328(17):1252-1258.
37. Rycroft C, Heyes, Lanza, Karin. Epidemiology of chronic obstructive pulmonary disease: a literature review. International Journal of Chronic Obstructive Pulmonary Disease. 2012;:457.
38. Sin D. Why Are Patients With Chronic Obstructive Pulmonary Disease at Increased Risk of Cardiovascular Diseases?: The Potential Role of Systemic Inflammation in Chronic Obstructive Pulmonary Disease. Circulation. 2003;107(11):1514-1519.
39. Masjedi M, Sharifi H, Emami H, Ghanei M, Eslaminejad A, Radmand G et al. Burden of obstructive lung disease study in Tehran: Prevalence and risk factors of chronic obstructive pulmonary disease. Lung Indi. 2015;32(6):572.Shelbourn D. Editorial. Structural Survey. 2011;29(4).
40. Leem A, Park B, Kim Y, Jung J, Won S. Incidence and risk of chronic obstructive pulmonary disease in a Korean community-based cohort. International Journal of Chronic Obstructive Pulmonary Disease. 2018; Volume 13:509-517.
41. Ulrik CS, Løkke A, Dahl R, Dollerup J, Hansen G, Cording PH, Andersen KK; Early detection of COPD in general practice. Int J Chron Obstruct Pulmon Dis. 2011;6:123-7. Epub. 2011 Jan 27
42. Hooper R, et.al. Risk factors for COPD spirometrically defined from the lower limit of normal in The BOLD project. EurRespir J. 2012 Jun;39(6):1343-53

43. Body-Mass Index and Cause-Specific Mortality In 900,000 Adults: Collaborative Analyses of 57 Prospective Studies. Obstetrical & Gynecological Survey. 2009;64(9):602-604.
44. Chockalingam K, Vedhachalam C, Rangasamy S, Sekar G, Adinarayanan S, Swaminathan S et al. Prevalence of Tobacco Use in Urban, Semi Urban and Rural Areas in and around Chennai City, India. PLoS ONE. 2013;8(10):
45. Swaminathan S, Menon PA. Prevalence of Tobacco Use in Urban, Semi Urban and Rural Areas in and around Chennai City, India. National Institute for Research in Tuberculosis, Chennai, India. . PLoS One. 2013 Oct 1;8(10):e76005.
46. Rooban T, Rao U, Joshua E, Ranganathan K. Prevalence and correlates of tobacco use among urban adult men in India: A comparison of slum dwellers vs non-slum dwellers. Indian Journal of Dental Research. 2012;23(1):31.
47. Jindal SK et al. A multi centric study on epidemiology of COPD and its relationship with Tobacco smoking and environmental tobacco smoke exposure. Indian Journal of Chest Diseases and allied sciences, 2016, 48: 23-29.
48. Rajkumar P, Pattabi K, Vadivoo S, Bhome A, Brashier B, Bhattacharya P et al. A cross-sectional study on prevalence of chronic obstructive pulmonary disease (COPD) in India: rationale and methods. BMJ Open. 2017;7(5):e015211.
49. Eisner M, Anthonisen N, Coultas D, Kuenzli N, Perez-Padilla R, Postma D et al. An Official American Thoracic Society Public Policy Statement: Novel Risk Factors and the Global Burden of Chronic Obstructive Pulmonary Disease. American Journal of Respiratory and Critical Care Medicine. 2010;182(5):693-718.
50. William J. Martin, II1, Roger. Glass, HoumamAraj, John Balbus, Francis. Household Air Pollution in Low- and Middle-Income Countries: Health Risks and Research Priorities. Policy Forum. 2017; Volume 10(Issue).
51. Leem A, Park B, Kim Y, Jung J, Won S. Incidence and risk of chronic obstructive pulmonary disease in a Korean community-based cohort. International Journal of Chronic Obstructive Pulmonary Disease. 2018; Volume 13:509-517.
52. Sehgal M, Rizwan S, Krishnan A. Disease burden due to biomass cooking-fuel-related household air pollution among women in India. Global Health Action. 2014;7(1):25326.
53. Brunekreef B, Von Mutius E, Wong G, Odhiambo J, Clayton T. Early life exposure to farm animals and symptoms of asthma, rhinoconjunctivitis and eczema: an ISAAC Phase Three Study. International Journal of Epidemiology. 2012;41(3):753-761.

54. Maehara S, Iyoda T. Study on the Effect of Rain Exposure on Carbonation-Induced Spalling / Falling Of the Cover Concrete. Journal of Japan Society of Civil Engineers, Ser E2 (Materials and Concrete Structures). 2018; 74(2):80-87.
55. Zeng X, Tu M, Liu D, Zheng D, Zhang J, Leng W. Periodontal Disease and Risk of Chronic Obstructive Pulmonary Disease: A Meta-Analysis of Observational Studies. PLoS ONE. 2012;7(10):e46508.
56. Noomnual S, Shendell D. Young Adult Street Vendors and Adverse Respiratory Health Outcomes in Bangkok, Thailand. Safety and Health at Work. 2017;8(4):407-409.
57. Ritz T, Rosenfield D, Steele A, Millard M, Meuret A. Controlling Asthma by Training of Capnometry-Assisted Hypoventilation (CATCH) vs Slow Breathing. Chest. 2014; 146(5):1237-1247
58. Rastogi S, Gupta B, Mathur N, Husain T. A study of the prevalence of ventilatory obstruction in textile workers exposed to cotton dust. Environmental Research. 1989;50(1):56-67.heart disease. . Indian J Chest Dis Allied Sci. 2012 Apr-Jun;54(2):111-6.
59. Mckay AJ, Mahesh PA, Fordham JZ, Majeed A, Prevalence of COPD in India, A systematic renew; primary care respiratory journal 2012 sep; 21(3) : 313-21.
60. Jayakrishnan R, Geetha S, Binukumar B; Sreekumar, Lekshmi K. Self-reported tobacco use, knowledge on tobacco legislation and tobacco hazards among adolescents in rural Kerala State. Indian J Dent Res. 2011 Mar-Apr;22(2):195-9.
61. Zhou Y, Chen R. Risk factors and intervention for chronic obstructive pulmonary disease in China. Respirology. 2013; 18:4-9.
62. Clotet J, Real J, Lorente I, Fuentes A, Paredes E, Ciria C. [Spirometry as method of screening and intervention in high- risk smokers in primary care]. AtenPrimaria. 2012
63. .Efraimsson EO, Hillervik C, Ehrenberg A. Effects of COPD self-care management education at a nurse-led primary health careclinicScand J Caring Sci. 2008 Jun; 22(2):178-85
64. Rigotti NA, Clair C, Munafò MR, Stead LF. Interventions for smoking cessation in hospitalized patients. Cochrane Database Syst Rev. 2012 May 16;5:CD001837Jun;44(6):328-34.

65. Danielsson P, Ólafsdóttir IS, Benediktsdóttir B, Gíslason T, Janson C. The prevalence of chronic obstructive pulmonary disease in Uppsala, Sweden—the Burden of Obstructive
66. Lung Disease (BOLD) study: cross-sectional population-based study. ClinRespir J. 2012 Apr;6(2):120-7. doi: 10.1111/j.1752-699X.2011.00257.x. Epub 2011 Jul 6.
67. Sehgal M, Rizwan S, Krishnan A. Disease burden due to biomass cooking-fuel-related household air pollution among women in India. Global Health Action. 2014;7(1):25326.

Uzel F, Karadag P, TuralOnur S, Turan D, Yenturk E, Tuncay E. A Basic Question: Are Patients with Chronic Obstructive Pulmonary Disease Aware of Their Disease?.Turkish Thoracic Journal. 2017;18(4):114-118.

68. Diette G, Accinelli R, Balmes J, Buist A, Checkley W, Garbe P et al. Obstructive Lung Disease and Exposure to Burning Biomass Fuel in the Indoor Environment. Global Heart. 2012;7(3):265-270.
69. World Health Organization. The GOLD global strategy for the management and prevention of COPD, 2001
70. Sin D. Why Are Patients With Chronic Obstructive Pulmonary Disease at Increased Risk of Cardiovascular Diseases: The Potential Role of Systemic Inflammation in Chronic Obstructive Pulmonary Disease Circulation. 2003; 107(11):1514-1519
71. Takiguchi H, Takeuchi T, Niimi K, Tomomatsu H, Tomomatsu K, Hayama N et al. Proportion and clinical characteristics of non-asthmatic non-smokers among adults with airflow obstruction. PLOS ONE. 2018;13(5):e0196132
72. Tashkin D, Ferguson G. Combination bronchodilator therapy in the management of chronic obstructive pulmonary disease. Respiratory Research. 2013; 14(1):49.
73. Best Natural Treatments for COPD | Lung Institute Lung Institute.https://lunginstitute.com/blog/best-natural-treatments-copd/
74. William J. Martin, II1, Roger. Glass, HoumamAraj, John Balbus, Francis. Household Air Pollution in Low- and Middle-Income Countries: Health Risks and Research Priorities. Policy Forum.2017; Volume 10(Issue).
75. Sekine Y, Behnia M, Fujisawa T. Impact of COPD on pulmonary complications and on long-term survival of patients undergoing surgery for NSCLC. Lung Cancer. 2002;37(1):95-101.

76. Yang I, Clarke M, Sim E, Fong K. Inhaled corticosteroids for stable chronic obstructive pulmonary disease. Cochrane Database of Systematic Reviews. 2012;
77. List of Common COPD Medications health line. 2018 https://www.healthline.com/health/copd/drugs.
78. Sawa K, Koh Y, Kawaguchi T, Kambayashi S, Asai K, Mitsuoka S et al. PIK3CA mutation as a distinctive genetic feature of non-small cell lung cancer with chronic obstructive pulmonary disease: A comprehensive mutational analysis from a multi-institutional cohort. Lung Cancer. 2017;112:96-101
79. Walters J, Tang J, Poole P, Wood-Baker R. Pneumococcal vaccines for preventing pneumonia in chronic obstructive pulmonary disease. Cochrane Database of Systematic Reviews. 2017;
80. Poole P, Black P. Mucolytic agents for chronic bronchitis or chronic obstructive pulmonary disease. Cochrane Database of Systematic Reviews. 2013;
81. Mun S, Hwang Y, Kim J, Park S, Jang S, Seo J et al. Awareness of chronic obstructive pulmonary disease in current smokers: a nationwide survey. The Korean Journal of Internal Medicine. 2015;30(2):191.
82. Siu A, Bibbins-Domingo K, Grossman D, Davidson K, Epling J, García F et al. Screening for Chronic Obstructive Pulmonary Disease. JAMA. 2016;315(13):1372.
83. Mohtashamzadeh M. Kalman Filter Based Congestion Controller. International Journal of Distributed and Parallel systems. 2013;4(3):85-94.Doney B, Hnizdo E, Syamlal G, Kullman G, Burchfiel C, Martin C et al. Prevalence of Chronic Obstructive Pulmonary Disease Among US Working Adults Aged 40 to 70 Years. Journal of Occupational and Environmental Medicine. 2014; 56(10):1088-1093.
84. Liu X, Tan J, Wang T, Zhang Q, Zhang M, Yao L et al. Effectiveness of Home-Based Pulmonary Rehabilitation for Patients with Chronic Obstructive Pulmonary Disease: A Meta-Analysis of Randomized Controlled Trials. Rehabilitation Nursing. 2013;39(1):36-
85. Guo R. Herbal medicines for the treatment of COPD: a systematic review. European Respiratory Journal. 2006;28(2):330-338.
86. Hassan, z. m. H. Editorial Board. Egyptian Journal of Chest Diseases and Tuberculosis. 2013; 62(3)

87. Keating A, Lee A, Holland A. What prevents people with chronic obstructive pulmonary disease from attending pulmonary rehabilitation? A systematic review. Chronic Respiratory Disease. 2011;8(2):89-99.
88. Beauchamp M, Janaudis-Ferreira T, Goldstein R, Brooks D. Optimal duration of pulmonary rehabilitation for individuals with chronic obstructive pulmonary disease - a systematic review. Chronic Respiratory Disease. 2011; 8(2):129-140.
89. Mohammed J, Derom E, Van Oosterwijck J, Da Silva H, Calders P. Evidence for aerobic exercise training on the autonomic function in patients with chronic obstructive pulmonary disease (COPD): a systematic review. Physiotherapy. 2018; 104(1):36-45.
90. Uzel F, Karadag P, TuralOnur S, Turan D, Yenturk E, Tuncay E. A Basic Question: Are Patients with Chronic Obstructive Pulmonary Disease Aware of Their Disease. Turkish Thoracic Journal. 2017; 18(4):114-118.
91. Yildiz F, BingölKarakoç G, ErsuHamutçu R, Yardim N, Ekinci B, Yorgancioğlu A. The evaluation of asthma and COPD awareness in Turkey (GARD Turkey Project-National Control Program of Chronic Airway Diseases). TuberkulozveToraks. 2013;61(3):175-1
92. Donesky-Cuenco D, Nguyen H, Paul S, Carrieri-Kohlman V. Yoga Therapy Decreases Dyspnea-Related Distress and Improves Functional Performance in People with Chronic Obstructive Pulmonary Disease: A Pilot Study. The Journal of Alternative and Complementary Medicine. 2009;15(3):225-234.
93. Prasanna K, Sowmiya K, Dhileeban C. Effect of Buteyko breathing exercise in newly diagnosed asthmatic patients. International Journal of Medicine and Public Health. 2015; 5(1):77.
94. Positive evidence of the effectiveness of Buteykobreathing techniques in asthma. Focus on Alternative and Complementary Therapies. 2010;4(4):207-208.
95. Karam M, Kaur B, Baptist A. A modified breathing exercise program for asthma is easy to perform and effective. Journal of Asthma. 2016; 54(2):217-222.
98. Gupta P, Agarwal D, Sood S. Improvement in pulmonary functions and clinical parameters due to addition of breathing exercises in asthma patients receiving optimal treatment. Indian Journal of Allergy, Asthma and Immunology. 2017; 31(2):61.

99. Zakerimoghadam M, Tavasoli K, Nejad AK, Khoshkesht S. The effect of breathing exercises on the fatigue levels of patients with chronic obstructive pulmonary disease.Acta Med Indones. 2011 Jan;43(1):29-33

100. Godtfredsen N, Lam T, Hansel T, Leon M, Gray N, Dresler C et al. COPD-related morbidity and mortality after smoking cessation: status of the evidence. European Respiratory Journal. 2008; 32(4):844-853.

101. Karam M, Kaur B, Baptist A. A modified breathing exercise program for asthma is easy to perform and effective. Journal of Asthma. 2016;54(2):217-222.

Love to Serve
அறஞ்செய விரும்பு

INTERNATIONAL CENTRE FOR COLLABORATIVE RESEARCH
OMAYAL ACHI COLLEGE OF NURSING
Run by MR Omayal Achi MR Arunachalam Trust

ETHICAL CLEARANCE CERTIFICATE

Valid from: Oct 2016
Valid to: Oct 2018 (2 Years)

Name of the Principle Investigator: A.Lurdhu, M.Sc.(N) Student (Medical and Surgical Nursing)

The **ICCR** Ethical Committee had reviewed the project titled **"Effectiveness of Nurse Navigated self management strategies on knowledge, skill and respiratory parameters regarding management of CORD among patient attending outpatient department".** The proposal was found to be acceptable on ethical grounds. The Principle Investigator has the responsibility and accountability for any other administrative / regulatory approvals that may pertain to this research project, and for ensuring that the authorized research is carried out according to the conditions outlined in the original protocol submitted for ethics review.

This certificate of approval is valid for the time period provided, there is no change in the methodology protocol or consent process and documents.

Any significant change should be reported to Director for Research Committee considerations in advance for its implementation.

Signature of Research Director :

Signature of Researcher : A. Lurdhu

INTERNATIONAL CENTRE FOR COLLABORATIVE RESEARCH
OMAYAL ACHI COLLEGE OF NURSING
Run by MR Omayal Achi MR Arunachalam Trust

IEC CERTIFICATE

Name of the Principle Investigator: A.LURDHU

The **IEC** committee meeting had reviewed the IEC materials – **PowerPoint Presentation and Booklet on "Chronic Obstructive Respiratory Diseases".**

The proposal was found to be acceptable on principles of AV AID preparation. It is certified that the intervention tool based on IEC materials are appropriate to administer for the research project titled **"Effectiveness of Nurse Navigated self management strategies on knowledge, skill and respiratory parameters regarding management of CORD among patient attending outpatient department"**. This certificate of approval is valid for the time period provided.

Any significant change should be reported to coordinator / Director for research committee considerations in advance for its implementation.

Signature of the IEC Director :

Signature of the Researcher :

Date : 1/12/17

45, AMBATTUR ROAD, PUZHAL, CHENNAI - 600 066. TAMILNADU, INDIA
Tel : 26591617, 26591618, Fax : 26591616, Email : iccrphc@gmail.com, website : www.omayaln.com
Official Journal Website : www.iccrjnr.com

25 YEARS OF EXCELLENCE
OMAYAL ACHI COLLEGE OF NURSING
1992 - 2017
Approved by Govt. of Tamilnadu, Indian Nursing Council, New Delhi & Tamilnadu Nurses and Midwives Council, Chennai.
Affiliated to the Tamilnadu Dr. M.G.R. Medical University, Guindy, Chennai

22.11.2017

Sister. Liz John,
The Administrator,
Sacred Heart Hospital
Kandhasamy puram,
Tuticorin - 2

Sir/Madam,

Sub: Request for permission to conduct main Study.

Sister. Lourdu, is a bonafide M.Sc(Nursing) I year student studying at our College and she is conducting a main study on "EFFECTIVENESS OF NURSE NAVIGATED SELF MANAGEMENT STRATEGIES ON KNOWLEDGE, SKILL AND RESPIRATORY PARAMETERS REGARDING MANAGEMENT OF CHRONIC OBSTRUCTIVE RESPIRATORY DISEASE AMONG PATIENTS ATTENDING OUTPATIENT DEPARTMENT IN SELECTED SETTINGS".

This is for her research project to be submitted to the Tamilnadu Dr.M.G.R. Medical University in partial fulfillment of the University requirement for the award of M.Sc(Nursing) Degree.

Further details of the proposed project will be furnished by the student personally. She will not hinder your routine in any way and she will abide by the rules and regulations of the Hospital. The information collected from your Hospital will be kept confidential.

I kindly request you to grant her permission to conduct the study at your Esteemed Hospital.

Thanking you,

She is permitted to conduct the study

Yours Sincerely,

Sr Liz John
ADMINISTRATOR
SACRED HEART HOSPITAL
TUTICORIN - 628 002

OMAYAL ACHI COLLEGE OF NURSING
Principal

No.45, Ambattur Road, Puzhal. Chennai - 600 066. Ph: 26591617, 26591618, Fax : 26591616
Email : oacn1992@gmail.com web : www.omayaln.com

25 YEARS OF EXCELLENCE
OMAYAL ACHI COLLEGE OF NURSING
1992 - 2017
Approved by Govt. of Tamilnadu, Indian Nursing Council, New Delhi & Tamilnadu Nurses and Midwives Council, Chennai.
Affiliated to theTamilnadu Dr. M.G.R. Medical University, Guindy, Chennai

22.11.2017

Dr. Lakshmanan
The Manager of the Hospital
AVM Hospital,
No.135, Palayamkottai Road,
PSP Nagar,
Tuticorin – 628003.

Sir/Madam,

Sub: Request for permission to conduct main Study.

Sister. Lourdu, is a bonafide M.Sc(Nursing) I year student studying at our College and she is conducting a main study on "EFFECTIVENESS OF NURSE NAVIGATED SELF MANAGEMENT STRATEGIES ON KNOWLEDGE, SKILL AND RESPIRATORY PARAMETERS REGARDING MANAGEMENT OF CHRONIC OBSTRUCTIVE RESPIRATORY DISEASE AMONG PATIENTS ATTENDING OUTPATIENT DEPARTMENT IN SELECTED SETTINGS".

This is for her research project to be submitted to the Tamilnadu Dr.M.G.R. Medical University in partial fulfillment of the University requirement for the award of M.Sc(Nursing) Degree.

Further details of the proposed project will be furnished by the student personally. She will not hinder your routine in any way and she will abide by the rules and regulations of the Hospital. The information collected from your Hospital will be kept confidential.

I kindly request you to grant her permission to conduct the study at your Esteemed Hospital.

Thanking you,

Yours Sincerely,
OMAYAL ACHI COLLEGE OF NURSING
Principal

Permission granted to conduct the study

ADMINISTRATOR
ST. ANTONY'S HOSPITAL
Madhavaram,Chennai - 60.
Tamil Nadu

No.45, Ambattur Road, Puzhal. Chennai - 600 066. Ph: 26591617, 26591618, Fax : 26591616
Email : oacn1992@gmail.com web : www.omayaln.com

APPENDIX – C

LETTER SEEKING EXPERT'S OPINION FOR CONTENT VALIDITY

From

A.Lurdhu

M.Sc.(N) II year,

OmayalAchi College of Nursing,

Puzhal, Chennai – 600 066.

To

Respected Madam/ Sir,

Sub: Requisition for expert opinion on suggestion for content validity of the tool.

I am **A.Lurdhu.,** doing my M.Sc Nursing II year specializing in Medical Surgical Nursing at OmayalAchi College of Nursing under the guidance of Dr.Mrs.Kanchana, Principal and Research Director, ICCR and specialty Guide Dr.JoseEapen Jolly Cecily , as a part of my research project to be submitted to the Tamil Nadu Dr. M.G.R. Medical University, Guindy, December 2018 session and in partial fulfillment of the University requirement for the award of M.Sc(N) degree, I am conducting **"**" A comparative study to assess Nurse Navigated Self-Management Strategies (NNSMS). On knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases (CORD) among patients attending Outpatient Department (OPD)."

I have enclosed my data collection tool for your expert guidance and validation. Kindly do the needful.

Thanking You,

Yours faithfully

(A.Lurdhu)

ENCLOSURES:

1. Research proposal
2. Data collection tool
3. Intervention tool
4. Content validity form
5. Certificate for content Validity

LIST OF EXPERTS FOR CONTENT VALIDITY

MEDICAL EXPERT:

1. **DR.V.**RAJENDRAN,M.D.,(Gen,Med)
   Senior Civil Surgeon
   Sr.Assistant Professor of Medicine
   Madras Medical College &
   Gov. General Hospital, Chennai-3
   Reg.No. 51472**)**

PULMONOLOGIST:

2. **DR.SUNDER, M.B.B.S, M,D., DTCO.**
   Senior Civil Surgeon,
   Madres Medical College & Govt. General Hospital, Chennai-3
   (Reg.No.34135)

NURSING EXPERTS:

3. **PRO.SHOBA**
   HOD-Medical surgical nursing
   MMM College of Nursing
   No.131, Sakthi Nagar,
   Nolambur, Chennai-600 095.

4. **DR.PORKODI.M.M.Sc. (N). Ph.D**
   Associate Professor
   Dept.of Medical surgical Nursing
   Sri Ramachandra College of Nursing
   Sri Ramachandra UNIVERSITY
   Porur, Chennai-600116
   TamilNadu.

5. **PROF. M.KANIMOZHI**
HOD, Medical Surgical Nursing,
Madha College of Nursing,
Kundrathur,
Chennai-600 069.

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the data collection tool developed by Ms. A. Lurdhu, MSc Nursing II Year (2016- 2018 Batch), student of Omayal Achi College of Nursing, for the study **"A study to assess the effectiveness of Nurse Navigated (NVSM) Self-Management strategies on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases among patients attending outpatient department in selected settings"**, is validated by the undersigned and she can proceed with this tool to conduct the main study.

Signature with date:

Seal:

Dr. V. RAJENDRAN, M.D., (Gen. Med)
Senior Civil Surgeon
Sr. Assistant Professor of Medicine
Madras Medical College &
Govt. General Hospital, Chennai-3.
(Reg. No. 51472)

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the data collection tool developed by Ms. A. Lurdhu, MSc Nursing II Year (2016- 2018 Batch), student of Omayal Achi College of Nursing, for the study **"A study to assess the effectiveness of Nurse Navigated (NVSM) Self-Management strategies on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases among patients attending outpatient department in selected settings"**, is validated by the undersigned and she can proceed with this tool to conduct the main study.

Signature with date:

Seal:

Dr. SUNDAR, M.B.B.S.,M.D.,DTCD.
SENIOR CIVIL SURGEON
Reg. No. 34135
GOVT. GENERAL HOSPITAL

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the data collection tool developed by Ms. A. Lurdhu, MSc Nursing II Year (2016- 2018 Batch), student of Omayal Achi College of Nursing, for the study **"A study to assess the effectiveness of Nurse Navigated (NVSM) Self-Management strategies on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases among patients attending outpatient department in selected settings"**, is validated by the undersigned and she can proceed with this tool to conduct the main study.

Signature with date: 23/11/17

(M. KANIMOZHI, PROFESSOR)

Seal:

MADHA COLLEGE OF NURSING
23 NOV 2017
CHENNAI - 600 069

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the data collection tool developed by Ms. A. Lurdhu, MSc Nursing II Year (2016- 2018 Batch), student of Omayal Achi College of Nursing, for the study **"A study to assess the effectiveness of Nurse Navigated (NVSM) Self-Management strategies on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases among patients attending outpatient department in selected settings"**, is validated by the undersigned and she can proceed with this tool to conduct the main study.

Signature with date: 23/11/17

Seal:

Dr. A. PORKODI, M.Sc.(N), Ph.D.,
Associate Professor
Dept. of Medical Surgical Nursing
Sri Ramachandra College of Nursing
Sri Ramachandra University
Porur, Chennai-600 116.
Tamil Nadu, India.

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the data collection tool developed by Ms. A. Lurdhu, MSc Nursing II Year (2016- 2018 Batch), student of Omayal Achi College of Nursing, for the study **"A study to assess the effectiveness of Nurse Navigated (NVSM) Self-Management strategies on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases among patients attending outpatien department in selected settings"**, is validated by the undersigned and she can proceed wit this tool to conduct the main study.

Signature with date: 23.11.17.

Seal: HOD-MEDICAL SURGICAL NURSING
MMM COLLEGE OF NURSING
No. 131, SAKTHI NAGAR,
NOLAMBUR, CHENNAI-600 095.

APPENDIX – D

CERTIFICATE OF TAMIL AND ENGLISH EDITING

CERTIFICATE OF TAMIL EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that A.Lurdhu MSc (N) II year student of OmayalAchi College of Nursing, Chennai, conducted a dissertation work on "**Effectiveness of Nurse Navigated Self-Management Strategies on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Disease among patients attending Outpatient Department in selected settings.**" under the guidance of Dr. Jose Eapen Jolly Cecily,HOD Medical Surgical Nursing Dept,OmayalAchi College of Nursing. , as a partial fulfillment of The Tamil Nadu Dr. M.G.R. Medical University requirement for the award of MSc (N) degree is edited for Tamil Language appropriateness by .

Signature with date: 29/6/18

P.G. ASSISTANT (TAMIL)
ST. ANN'S MATRIC. HR. SEC. SCHOOL
Thapalpetti, Madhavaram,
Chennai - 600 060.

CERTIFICATE OF ENGLISH EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that A.Lurdhu MSc (N) II year student of OmayalAchi College of Nursing, Chennai, conducted a dissertation work on "**Effectiveness of Nurse Navigated Self-Management Strategies on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Disease among patients attending Outpatient Department in selected settings.**" under the guidance of Dr. Jose Eapen Jolly Cecily,HOD Medical Surgical Nursing Dept,OmayalAchi College of Nursing. , as a partial fulfillment of The Tamil Nadu Dr. M.G.R. Medical University requirement for the award of MSc (N) degree is edited for Tamil Language appropriateness by

._____.

Signature with date:

P.G. ASSISTANT (ENGLISH)
ST. ANN'S MATRIC. HR. SEC. SCHOOL
Thapalpetti, Madhavaram,
Chennai - 600 060.

APPENDIX - E

INFORMED CONSENT REQUISITION FORM

Good Morning,

sr.Lourdu M, M.Sc(Nursing) student from Omayal Achi College of Nursing Chennai conducting "**,A quasi experimental study to assess the effectiveness of Nurse Navigated Self-Management Strategies (NNSMS) on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases (CORD)in the experimental and control group"**as a partial fulfillment of M.Sc(Nursing) degree requirement under the Tamilnadu Dr. M.G.R. Medical University.

I assure you that information provided by you will be kept confidential. So, I request you to kindly co-operate with me and participate in this study by giving your open and honest response to the questions being asked.

Thanking you

Signature of the Investigator

sr.Lourdu

INFORMED WRITTEN CONSENT FORM

I understand that I am being asked to participate in a research study conducted by A.Lurdhu MSc (N) II year student of OmayalAchi College of Nursing, puzhal Chennai. This research study will evaluate "**Effectiveness of Nurse Navigated Self-Management Strategies on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Disease among experimental and control group.**" If agree to participate in the study, I will be interviewed; I understand that there is no risk associated with this study.

I realize that the knowledge gained from this study may help either me or other people in the future realize that my participation in this study is entirely voluntary and may withdraw from the study at any time. I wish if I decide to discontinue my participation in this study, I will continue to be treated in the usual and customary fashion.

I understand that all study will be kept confidential. However .this information may be used in nursing publication and presentation. If need to. I can contacts Sr.Lurdhu MSc (N) II year student of OmayalAchi College of Nursing,puzhalChennai,puzhal Chennai, phone no-0442650617,personal 9489881399 at time during the study.

This study has been explained to me I have read and understood the consent form my entire question has been answered and I agree to participate. I understand that I will be given copy of this signed consent form.

---------- ----------

Signature of the sample Date

---------- ----------

Signature of the investigator Date

தகவலறிந்த ஒப்புதல் படிவம்

நான் சென்னை புழலில் உள்ள உமையாள் ஆச்சி செவிலியர் கல்லூரியில் முனைவர் பட்டத்திற்காக, பயிற்சி பயிலும் மாணவி, என் படிப்பின் ஒரு பகுதியாக நாற்பட்ட நுரையீரல் அடைப்பு நோயில் இருந்து எப்படி நம்மை விடுவித்துக் கொள்ளலாம் பற்றிய ஆராய்ச்சி மேற்கொண்டுள்ளேன், ஆகவே நீங்கள் தயவுடன் இந்த ஆய்வில் உங்களைப் பற்றிய அடிப்படை விவரங்களையும் நுரையீரல் அடைப்பு நோய் பற்றிய அறிவு, மனப்பாங்கு, செயல் ஆகியவற்றை பற்றிய வினாக்களுக்கு உங்கள் விடையையும் ஒத்துழைப்பையும் அளிக்குமாறு கேட்டுக ˙கொள்கிறேன். மேலும், உங்கள் ஒத்துழைப்பை நுரையீரல் செயல் திறனை செய்யும் சோதனையிலும் தர விழைகிறேன்.

உங்களின் மேலான ஒத்துழைப்பை நாட்பட்ட நுரையீரல் அடைப்பு நோய் குறைப்பதற்காக மேற்கொள்ளும் செயல்பாடுகளிலும் தருமாறு வேண்டுகிறேன்.

உங்கள் பதில்களை மிகவும் இரகசியமாக பாதுகாக்கப்படும் மற்றும் என்னுடைய இந்த ஆய்விற்காக மாத்திரமே பயன்படுத்தபடும் எனவும் உறுதி அளிக்கிறேன்.

உங்களுக்கு ஏதாவது சந்தேகம் தோன்றினால் வெளிப்படுத்தவும். இதில் ,பங்கேற்பது முற்றிலும் உங்களுடைய விருப்பம். ஆய்வின் இடையில் கூட நீங்கள் விலக விரும்பினால் விலகி கொள்ளலாம்.

இந்து ஆய்வு எந்தவித தீங்கும் உங்களுக்கு ஏற்படுத்தாது என உறுதியளிக்கிறேள்.

கையொப்பம் :

தேதி :

APPENDEX – F

PRE-TEST/POST TEST
DATA COLLECTION TOOL

Sample no: -------

PART- 1: BACKGROUND VARIABLES

Instructions: Specify the most suitable answer for each of the following questions from the options given below.

A.DEMOGRAPHIC DATA:

1. Age (in years)
   a. 21-35
   b. 36-50
   c. 51-60
   d. ≥61

2. Gender:
   a. Male
   b. Female

3. Education
   a. Professional (or) honours
   b. Graduate or post graduate
   c. Intermediate of post high school diploma
   d. High school certificate
   e. Middle school certificate.
   f. Primary school certificate
   g. Non- literate
   h. Others

4. Occupation:
   a. Profession
   b. Semi Profession
   c. Clerical, Shop Owner/ Farmers
   d. Skilled
   e. Semi skilled

f. Unskilled
g. Unemployed
h. Others

5. .Family monthly income (in Rs.)……...:
   a. ≤5000
   b. 5,001 to 15,000
   c. 15,001 to 25,000
   d. ≥25,001

6. Total members in the family including self……..

7. Area of residence:
   a. Urban
   b. Semi urban
   c. Rural
   d. Slum
   e. Others

8. Types of fuel used for cooking
   a. Wood
   b. Kerosene
   c. Bio-gas
   d. LPG Gas
   e. Electric stove
   f. None of the above
   g. Others

B. CLINICAL VARIABLES:

1. Family history of Chronic Obstructive Respiratory Diseases
    a. Yes
    b. No
    1.1. If "yes" specify.

1. Non smoker	2. Ex-Smoker	3. Yes, Currently Smoking	3.1Years of chronicity
	Gave up smoking since_____	a. Active Smoker	----------
		b. Passive smoker	----------

3. Exposure to air pollutants
    a. Yes
    b. No
    3.1. If "yes" specify the type and chronicity.

3.1 Types	3.2 chronicity
a. Tobacco smoke -internal/external	a.
b. Dust	b.
c. Chemical/ exhaust fumes	c.
d. Industrial power plant / copper industry/ cotton industry	d.
e. > one of the above	e.

4. Chronicity of Chronic Obstructive Respiratory Disease
    a. 5 – 8 years
    b. 9 – 12 year
    c. 13 – 17 years
    d. .> 17 years

5. Past history of acute respiratory infection.
    a. 10 days back
    b. 15 days back
    c. 20 days back
    d. 25 days
    e. Within a month

6. Are you allergic?
    a. No
    b. Yes
    6.1. If “Yes “specify (upper respiratory infection.)
        a. Pollen
        b. Food
        c. Pet animals
        d. House dust
        e. Others

7. Ongoing treatment for chronic obstructive respiratory disease?
    a. Yes
    b. No
    7.1. If “yes” specify the regularity
        a. Regular
        b. Irregular

1. Presence of co- morbid illness
    a. Yes
    b. No

C. ANTROPOMETRIC VARIABLES

1. Height……(cm)
2. Weight……..(kg)
3. BMI……

   a. Underweight

   b. Normal range.

   c. overweight –At Risk

   d. Overweight-Moderately obese

   e. Overweight—Severely Obese

.

PART 2.STRUCTURED KNOWLEDGE QUESTIONNAIRE ON CHRONIC OBSTRUCTIVE RESPIRATORY DISEASE (CORD)

Instructions: Specify the most suitable answer for each of the following questions from the options given below.

Definition

1. What do you understand by the termChronic Obstructive Respiratory Disease (CORD)?
   a. Chest pain
   b. Airflow limitation
   c. Difficulty in breathing
   d. Excessive cough

Types

2. Chronic Obstructive Respiratory Disease (CORD) comprisesof the following disorders…….
   a. Respiratory failure and arrest
   b. Tuberculosis and pneumonia
   c. Chronic bronchitis and emphysema
   d. Lung tumor/cancer

Risk factors

3. Which is the principle risk factor for CORD?
   a. Cigarette (tobacco) smoking
   b. Alcohol consumption
   c. Overcrowding
   d. Sea-food allergy

4. What do you mean by the term ETS?
   a. Economical Tobacco smoke
   b. Excluded Tobacco smoke
   c. Exclusive Tobacco smoke
   d. Environmental Tobacco smoke

Clinical manifestation

5. What is the effect of airway obstruction on the health status of the person?
    a. Body ache
    b. Shortness of breath
    c. Fever
    d. Difficulty in eating

6. One of the major clinical features of CORD is ……..
    a. Fever with chills
    b. Chest pain with profuse sweating
    c. Chronic cough with sputum production
    d. Frequent episodes of bluish skin discoloration

7. The characteristic abnormal respiration associated with CORD is……..
    a. Gasping
    b. Intermittent cessation of breathing
    c. Obstructed breathing
    d. Wheezing

8. What abnormal change in the shape of the chest seen in chronic CORD?
    a. Flattened chest
    b. Rounded bulging chest
    c. Pigeon chest
    d. Retracted chest

9. What is the comforting position assumed during dyspneic episodes by CORD patients?
    a. Leaning forward with palms resting on the knees
    b. Sitting upright with back support
    c. Lying on the back
    d. Side-lying

Diagnostic evaluation

10. What is the investigation done to diagnose CORD?
    a. Chest X- ray
    b. Sputum test
    c. Electrocardiogram
    d. Blood cell count

11. Why is pulse – oximetry done for CORD patients?
    a. It measures the blood pressure
    b. It measures the level of oxygen in the blood
    c. It measures the serum cholesterol level
    d. It measures the blood sugar level

Complication

12. Acute respiratory failure is a major complication of CORD resulting in……
    a. Destruction of lung due to lesions
    b. Collapse of the lung
    c. Failure of the lungs to open.
    d. Failure of lungs to supply oxygen to the blood

Management

13. What are the drugs recommended for patient with CORD?
    a. Antipyretics
    b. Analgesics
    c. Airway expanders'
    d. Antibiotics

14. Which is the commonly recommended method to relieve the breathing difficulty in the home setting?
    a. Stop smoking
    b. Taking steam inhalation
    c. Taking rest
    d. Taking medications via inhalers

15. What is the effect of smoking cessation?
    1. Reduce fatigue
    2. Slows the heart rate
    3. Improves the lung function
    4. Increases the breath rate

16. How is oxygen therapy beneficial?
    a. It increases the workload of the heart
    b. It reduces the work of breathing
    c. It reduces the lung capacity
    d. It increases the breath rate

17. What type of food is recommended for patients with CORD?
    a. Meat and shell fish items
    b. Whole grain and fiber rich food
    c. Low calorie foods
    d. Non-spicy foods

18. One of the important self-management strategiesfor CORD is……..
    a. Performing the specified breathing exercises
    b. Taking self-medication
    c. Doing strenuous exercises
    d. Restrict the intake of sea food

Prevention

19. Which of the following should not be done, in order to prevent exacerbation of CORD?
    a. Avoid exposure to dust
    b. Stay confined to closed spaces
    c. Remain in cool environment always
    d. Wear loose fitting clothes

Buetyko breathing technique

20. What is Buetyko breathing?
    a. An alternative physical therapy involving specific breathing
    b. Physical therapy involving all limbs.
    c. Specific exercise for the heart
    d. Type of breathing to enhance one's look

21. What are the effects of Buetyko breathing?
    a. Boosters immunity
    b. It improves the hormonal balance
    c. It improves the co2tolerance level and alleviates improper breathing
    d. It improves the sleep and rest

22. Buetyko breathing can be practiced regularly by persons with…….....
    a. Breathing problem
    b. Stress and exhaustion
    c. Heart disease
    d. High blood pressure

23. Buetyko breathing technique is contraindicated for person with……..
    a. Obesity
    b. Organ transplant and cardiac pace maker
    c. Common cold
    d. Snoring

24. When is the ideal time to practice Buetyko breathing?
    a. After waking from sleep
    b. After meals
    c. After strenuous activity
    d. Before meals

25. Control-pause during Buetyko breathing helps to……..

    a. Relaxes during exercise
    b. Rest the respiratory muscle
    c. Increase the need to take breaths
    d. Improvesthe lung capacity

.

பகுதி–1

அடிப்படைவிவரம்

1. வயது (**வருடங்களில்**)
   அ. 21-35
   ஆ. 36-50
   இ. 51-60
   ஈ. 65 க்குஅதிகமாக

2. பாலினம்
   அ. ஆண்
   ஆ. பெண்

3. கல்வி
   அ. தொழிற்கல்வி
   ஆ. பட்டதாரிஅல்லது மேல்படிப்பு பட்டதாரி
   இ. இடைநிலைமேல்நிலை டிப்ளமோ
   ஈ. மேல்நிலைகல்வி சான்றிதழ்
   உ. உயர்நிலைக்கல்வி சான்றிதழ்
   ஊ. படிப்பறிவின்மை

4. தொழில்வேலை
   அ. தொழிற் சம்மந்தமான வேலை
   ஆ. பாதி – தொழிற் சம்மந்தமான வேலை
   இ.அலுவலக வேலை/ சொந்தகடை/ விவசாயம்
   ஈ. திறமையான வேலை பார்த்தல்
   உ. திறமையான வேலை
   ஊ. வேலையில்லாமல் இருத்தல்

5. மாதகுடும்பவருமானம்(**ரூபாய்களில்**)
   அ. 5000க்கு குறைவாக
   ஆ. 5001 முதல் 15,000 வரை
   இ. 15,001 முதல் 25,000 வரை
   ஈ. 25,001 க்கு அதிகமாக

6. குடும்ப உறுப்பினர்கள் மொத்த எண்ணிக்கை.....

7. வாழும்பகுதி
   அ. நகர்புறம்
   ஆ. சின்னந கர்புறம்
   இ. கிராமங்களில்
   ஈ. அடிபட்ட பகுதிகளில் வாழ்பவர்கள்
   உ. மற்றவை

8. சமையலுக்குபயன்படும்எரிபொருள்
   அ. விறகு
   ஆ. மண்ணெண்ணெய்
   இ. சாணஎரிவாயு
   ஈ. சமையல் எரிபொருள் வாயு
   உ. மின்சார அடுப்பு
   ஊ. மேலே உள்ளவைகளில் , ஒன்றும் மேலாக

பகுதி–2

1. குடும்பத்தில் யாருக்காவது நாள்பட்ட நுரையீரல்நோய்உள்ளதா?
   அ. ஆம்
   ஆ. இல்லை

   ஆம் என்றால் பாதிக்கப்பட்ட உளவு முறையை குறிப்பிடவும்.
   அ. தந்தைமரபினர்
   ஆ. தாயின்மரபினர்
   இ. இரண்டும்
   ஈ. உடன்பிறந்தவர்கள்
   உ. மற்றவர்கள்

2. புகைபிடிக்கும்பழக்கம்

புகை பிடிக்காதவர்	முன்பு புகை பிடித்தவர்	ஆம். புகை பிடிக்கும் பழக்கம் உள்ளவர்	3.1 எத்தனை வருடமாக பழக்கம்உள்ளவர்
	எப்போது புகை பிடிக்கும் பழக்கத்தை விட்டார்	புகை பிடிப்பவர்	
		வீட்டில் யாரவது புகை பிடிப்பவர்களா	

3. நேரடியாககாற்றுமாசுபடுதலின்தொடர்வுகொண்டவரா?
   அ. ஆம்
   ஆ. இல்லை

3.1 ஆம்என்றால்வகைமாற்றம்அதன்வருடத்தைகுறிப்பிடவும்.

3.1 வகைகள்	3.2 ஆண்டுகள்
அ. மற்றவர் புகை பிடித்தல், வீட்டில்/ வெளியில்	
ஆ. தூசி	
இ. வேதிப் பொருள்/ காற்றில் உள்ளதூசிகள்	
ஈ. தொழிற்சாலை/ அனல் மின் நிலையம்/ ஸ்டெர்லைட் ஆலை/ பருத்திஆலை	
உ. மேல் உள்ளவைகளை விட மற்றொன்று	

4. எத்தனை ஆண்டுகளாக , நாள்பட்ட நுரையீரல் அடைப்பு நோயினால் பாதிக்கப்பட்டு உள்ளீர்கள்.

   அ. 5 - 8 **ஆண்டுகள்**

   ஆ. 9 - 12 **ஆண்டுகள்**

   இ. 13 – 17 **ஆண்டுகள்**

   ஈ. 17 **ஆண்டுகளுக்குமேல்**

5. எத்தனை நாட்களுக்கு முன்பு நுரையீரல் தொற்று நோயால் பாதிக்கப்பட்டீர்?

   அ. 10**நாட்களுக்குமுன்பு**

   ஆ. 15 **நாட்களுக்குமுன்பு**

   இ. 20 **நாட்களுக்குமுன்பு**

   ஈ. **ஒருமாதத்திற்குள்**

6. உங்களுக்குஒவ்வாமைஉள்ளதா ?

   அ. **ஆம்**

   ஆ. **இல்லை**

   ஆம் என்றால்

   அ. மகரந்தம்

   ஆ. உணவு

   இ. வீட்டில் வளர்க்கப்படும் விலங்குகள்

   ஈ. வீட்டில் உள்ள தூசி

   உ. மற்றவை

7. நாள்பட்டநோய்க்குமருந்துஎடுக்கீறீர்களா ?

   அ. **ஆம்**

   ஆ. **இல்லை**

   ஆம் என்றால் தொடர்ச்சியை குறிப்பிடவும்

   அ. தொடர்ச்சியாக

   ஆ. தொடர்ச்சியற்ற

8. நாள்பட்ட நுரையீரல் அடைப்பு நோயுடன் மற்ற நோய்கள் உள்ளதா?

   அ. **ஆம்**

   ஆ. **இல்லை**

பகுதி - 3

1. நீங்**கள் நாள்பட்ட நுரையீரல் அடைப்பு நோய் பற்றி புரிந்து கொண்டீர்களா**?
   அ. **நெஞ்சுவலி**
   ஆ. காற்றுநுழைவதில்அளவுதடை
   இ. **மூச்சுவிடுவதில்சிரமம்**
   ஈ. அளவுக்குஅதிகமானஇருமல்

2. நாள்பட்ட நுரையீரல் அடைப்பு நோய்**ல் கீழ்கண்ட நோய்கள் அடங்கியிருக்கலாம்**
   அ. **சுவாச மண்டலம் செயலிழப்பு மற்றும் தடை**
   ஆ. **காசநோய் மற்றும் நிமோனியா**
   இ. நீண்ட நாள் மூச்சு குழல் நோய் தொற்று
   ஈ. நுரையீரல் கட்டி/ புற்றுநோய்

3. எதுநாள்பட்டநுரையீரல்அடைப்புநோய்நோயைஉண்டாக்கும்முதற்மையான காரணி
   அ. **சிகரெட்புகைபிடித்தல்(புகையிலை)**
   ஆ. மதுஅருந்துதல்
   இ. **அதிகமானகூட்டம்**
   ஈ. கடல்உணவுஒவ்வாமை

4. EDS (இடிஸ்) என்ற சொல்லின் பொருள் என்ன?
   அ. **சிகரெட் புகை பிடித்தல்(புகையிலை)**
   ஆ. மது அருந்துதல்
   இ. **அதிகமான கூட்டம்**
   ஈ. கடல் உணவு ஒவ்வாமை

5. மூச்சுப் பகுதி அடைப்பினால் மனிதனின் உடல் நலனில் ஏற்படும் பாதிப்புகள் என்ன?
   அ. **உடல்வலி**
   ஆ. குறைந்த அளவு மூச்சு விடுதல்
   இ. **காய்ச்சல்**
   ஈ. சாப்பிடுவதில் சிரமம்

6. நாள்பட்ட நுரையீரல் அடைப்பு நோய்யின் முக்கியமான ஒரு அறிகுறி மற்றும் அடையாளங்கள் என்ன?
   அ. **காய்ச்சலுடன் கூடிய குளிர்**
   ஆ. நெஞ்சு விலியுடன் கூடியவியர்வை
   இ. **நாள்பட்ட இருமலுடன் கூடிய சளி**

7. நாள்பட்ட நுரையீரல் அடைப்பு நோய் உடன் ஏற்படக்கூடிய அசாதாரண குணமுடைய மூச்சு பிரச்சனை என்ன?
   அ. **மூச்சுஇழுத்துகொண்டுஇருத்தல்**
   ஆ. **இடைவெளிவிட்டுமூச்சுநின்றுபோதல்**
   இ. **மூச்சுஅடைப்பு**
   ஈ. **மூச்சுஇழுப்பு(வீசிங்**)

8. உருளைவடிவமார்புஎன்றால்என்ன?
   அ. **தட்டையான மார்பு**
   ஆ. உருண்டை வடிவமான வீக்க முள்ள மார்பு
   இ. **புறாவடிவ மார்பு**
   ஈ. **உள்வாங்கிய மார்பு**

9. நாள்பட்ட நுரையீரல் அடைப்பு நோய் மூச்சு விடுவதில் சிரமம் ஏற்படும் போது நோயாளியின் உடல் அமைப்பு எப்படி இருக்கும்?
   அ. **முன்னோக்கி குனிந்து உள்ளங்கைகளை கால் முட்டி யில் வைத்து ஓய்வுஎடுத்தல்**
   ஆ. நேராக அமர்ந்து கொண்டு முதுகு சரியாக வைத்தல்
   இ. முதுகு பக்கமாக படுத்தநிலை
   ஈ. **ஒரு பக்கமாக படுத்தநிலை**

10. நாள்பட்ட நுரையீரல் அடைப்பு நோய் நோய் உள்ளதா என்பதை என்ன பரிசோதனை மூலம் கண்டறியலாம்?
    அ. **நெஞ்சுப் பகுதியில் கதிர் வீச்சு படம் எடுத்தல்** (**எக்ஸரே**)
    ஆ. **சளி பரிசோதனை**
    இ. நெஞ்சில் சுருள்படம்
    ஈ. **இரத்த செல்களின் அளவு பார்த்தல்**

11. எதற்கு ஆக்ஸிஜன் அளவு கண்டு பிடிக்கும் கருவி பயன்படுகிறது?
    அ. **இரத்த அழுத்த அளவு கண்டறியலாம்**
    ஆ. **இரதத்த்தில் உள்ள ஆக்ஸிஜன் அளவு**
    இ. **இரத்தத்தில் கொழுப்பு அளவு**
    ஈ. **இரத்தத்தில் சர்க்கரை அளவு**

12. சுவாச மண்டலம் செயலிழுப்பு முதற்படியான விளைவு நாள்பட்ட நுரையீரல் தடுப்பு நோய்.
    அ. **நோயினால் நுரையீரல் பகுதி அழிதல்**
    ஆ. **நுரையீரல் உடைந்து போதல்** (**சிதைதல்**)
    இ. **நுரையீரல் திறப்பதில் செயலிழுப்பு**
    ஈ. **நுரையீரல் செயலிழுப்பு ஆக்ஸிஜனை இரத்தத்திற்கு அனுப்புவதில் சிரமம்**

13. நாள்பட்ட நுரையீரல் அடைப்பு நோய் நோயாளிக்கு அளிக்கப்படும் மருந்துகள் என்ன?
அ. **காய்ச்சல் மருந்து**
ஆ. மூச்சு விரிவடையும் செய்யும் மருந்து
இ. **வலிமருந்து**
ஈ. வலி நீக்கும் மருந்து

14. வீட்டில் மூச்சு விடுதல் சிரமம் ஏற்படும் போது பொதுவாக எப்படி கையாளுவதினால் அதை குறைக்கலாம்.
அ. **புகையிலை பிடிப்பதை நிறுத்துவதினால்**
ஆ. நீராவி பிடிப்பதினால்
இ. **ஓய்வு எடுப்பதினால்**
ஈ. மருந்துகள் மூலம் ஆவி பிடிப்பதினால்

15. சிகரெட் பிடிப்பதினை நிறுத்தினால் ஏற்படும் பாதிப்பு என்ன?
அ. **சோர்வு தன்மை**
ஆ. இதய துடிப்பு குறைதல்
இ. **நுரையீரலின் வேலையில் முன்னேற்றம் ஏற்படுதல்**
ஈ. **மூச்சு அளவு அதிகரித்தல்**

16. ஆக்ஸிஜன் கொடுப்பதினால் ஏற்படும் பலன் என்ன?
அ. **இதயத்தின் வேலை அதிகப்படுத்துதல்**
ஆ. **மூச்சு விடுவதில் ஏற்படும் சிரமம் குறைத்தல்**
இ. **நுரையீரலின் கொள்ளளவு குறைத்தல்**
ஈ. **மூச்சு அளவு அதிகமாதல்**

17. என்ன வகையான உணவுகளை நாள்பட்ட நுரையீரல் அடைப்பு நோய் நோயாளிக்கு கொடுக்கலாம்.
அ. **கறி மற்றும் ஓட்டுடன் கூடிய கடல் மீன்கள்**
ஆ. **முழு தானியங்கள் மற்றும் அதிக நார்சத்துள்ள உணவு**
இ. **குறைந்த கலோரி உணவுகள்**
ஈ. காரமில்லா உணவு

18. நாள்பட்ட நுரையீரல் அடைப்பு நோய்க்கான ஒரு முக்கியமான தனியாக கையாளக் கூடிய முறை என்ன?
அ. **குறிப்பிட்ட மூச்சு பயிற்சியினை செய்தல்**
ஆ. **நாமகவே மருந்து எடுத்துக் கொள்ளுதல்**
இ. **கடினமான உடற்பயிற்சி செய்தல்**
ஈ. **கடல் உணவு எடுப்பதனை தவிர்த்தல்**

19. நாள்பட்ட நுரையீரல் அடைப்பு நோய் அதிகமாவதை என்ன முன்னெச்சரிக்கை மூலம் தடுக்கலாம்?
அ. **தூசிப்பகுதியில் தொடர்பு கொள்வதை தடுத்தல்**
ஆ. **மூடிய பகுதியில் தங்கி இருத்தல்**
இ. **சரியான அளவுள்ள குளிரந்த பகுதியில் இருத்தல்**
ஈ. **இறுக்கமில்லா ஆடை அணிதல்**

20. புயூட்டிகோ மூச்சு பயிற்சி என்றால் என்ன?
அ. **மாறிமாறி செய்யக்கூடிய சிறப்பான உடற்மூச்சு பியிற்சி**
ஆ. **எல்லா கை, கால்களை பலபடுத்தி உடற்பயிற்சி செய்தல்**
இ. **இதயத்திற்கான சிறப்பு உடற்பயிற்சி**
ஈ. **மூச்சினை சாதரண நிலைக்கு கொண்டுவருதல்**

21. புயூட்டிகோ மூச்சு விடிதலின் பாதிப்பு என்ன?
அ. **நோய் எதிர்ப்பு சக்தியினை ஊக்கப்படுத்துதல்**
ஆ. **ஹார்மோன் அளவில் முன்னேற்றம்**
இ. CO_2 **அளவினை சீர்செய்தல் மற்றும் சரியில்லாத மூச்சினை** வெளியேற்றுவதில் முன்னேற்றம்
ஈ. **தூக்கம் மற்றும் ஓய்வில் முன்னேற்றம்**

22. புயூட்டிகோ மூச்சு பயிற்சியினை தினமும் யாரெல்லாம் செய்யலாம்?
அ. **மூச்சு விடுதில் பிரச்சனை**
ஆ. **மனஅழுத்தம் மற்றும் வெறுப்புடன் உள்ளவர்**
இ. **இதயநோய்**
ஈ. இரத்த அழுத்த நோய்

23. புயூட்டிகோ மூச்சுப யிற்சியினை யாரெல்லாம் செய்ய கூடாது?
அ. **உடல் பருமன்**
ஆ. **உடல் உறுப்பு மாற்றம் மற்றும் இதய துடிப்பு கருவி பொருத்தப்பட்டவர்**
இ. **பொதுவான சளி**
ஈ. குரட்டை விடுபவர்

24. புயூட்டிகோ மூச்சு பயிற்சியினை செய்ய சரியான நேரம்?
அ. **தூங்கி எழுந்தவுடன்**
ஆ. உணவுக்கு முன்
இ. **அதிகப்படியான உடற்பயிற்சிக்கு பின்**
ஈ. உணவுக்கு பின்

25. கட்டுபாட்டுடன் கூடிய இடைவெளி விட்டு புயூட்டிகோ மூச்சுபயிற்சியினை செய்வதால் ஏற்படும் பயன்?
அ. **ஓய்வுடன் கூடிய உடற்பயிற்சி**
ஆ. மூச்சு விடும் தசைகள் ஓய்வடைதல்
இ. **மூச்சு விட அதிக அளவு தேவைப்படுதல்**
ஈ. நுரையீரல் கொள்ளளவு

பகுதி– 4

உயரியியல் மாறிகள்

1. உயரம்(cm)
   அ. 140 – 150 உ யரம்
   ஆ. 151 – 160 உயரம்
   இ. 161 – 170 உயரம்
   ஈ. 171 உயரத்திற்குமேல்

2. எடைKG
   அ. 45 – 55 கிலோ
   ஆ. 56 – 65 கிலோ
   இ. 66 – 75 கிலோ
   ஈ. 76 - 85 கிலோ

3. உடல் நிளவு குறியீட்டு எண்.
   அ. குறைந்த அளவுள்ள எடை
   ஆ. அளவான எடை
   இ. அதிகஎடை–மிதமான கொழுப்பு
   ஈ. அதிகஎடை–அதிகமான கொழுப்பு
   உ. அதிகஎடை - அபத்தானது

SECTION-D: OBSERVATIONAL CHECKLIST

ASSESSMENT OF SKILL IN PERFORMING BUTEYKO BREATHING

Instruction: Tick the appropriate column based on patient's performances.

S.No.	Assessment Criteria	Yes	No
A	**Relaxed Breathing:**		
1.	Patient ensures that the room is quiet and his/her clothing is comfortable.		
2.	Sits comfortably with a straight back, legs uncrossed and knees shoulder-width apart, facing a clock.		
3.	Puts hands on the upper and lower chest and breathes smoothly and quietly through the nose.		
4	Focuses on those areas of the body where movement is felt while breathing, and gradually minimizes the movement of the upper hand.		
5.	Places the upper hand down on the lap and relaxes the rest of the body muscles.		
6.	Continues gentle, relaxed breaths for around three minutes and then lets breathing return to normal.		
B	**Control Pause**		
7.	Takes in a normal sized breath in and out through the nose, holds nose gently and notes the time.		
8.	Holds the breath until he/she feels the first onset of a feeling of lack of air. At this point, releases the nose, breathes in gently through the nose and notes the time.		
9.	Performs relaxed breathing immediately.		
10.	Takes short rest for 20-30 seconds.		
11.	Repeats control pause immediately followed by relaxed breathing for 3 minutes and short rest for 20-30 seconds for a total of 3 times.(3 repetitions)		
12.	Takes long rest for 2 minutes.		
13.	Performs final control pause and notes its duration.		
14.	Checks if the final control pause is longer than the starting control pause and reports if not so.		

Scoring key:

Each criteria performed correctly (Yes) will be given ‘1’mark and ‘0’if not performed appropriately (No). The overall score is 14, and the minimum score is ‘0’. The raw score will be converted to percentage that will help to interpret the level of skill.

Interpretation of level of skills:

The overall score percentage will be categorized as follow

Score	Level of skill
≥ 11	Good skill
6-10	Good skill
≤ 5	Needs improvement in a skill

தகவலறிந்த ஒப்புதல் படிவம்

நான் சென்னை புழலில் உள்ள உமையாள் ஆச்சி செவிலியர் கல்லூரியில் முனைவர் பட்டத்திற்காக, பயிற்சி பயிலும் மாணவி, என் படிப்பின் ஒரு பகுதியாக நாற்பட்ட நுரையீரல் அடைப்பு நோயில் இருந்து எப்படி நம்மை விடுவித்துக் கொள்ளலாம் பற்றிய ஆராய்ச்சி மேற்கொண்டுள்ளேன், ஆகவே நீங்கள் தயவுடன் இந்த ஆய்வில் உங்களைப் பற்றிய அடிப்படை விவரங்களையும் நுரையீரல் அடைப்பு நோய் பற்றிய அறிவு, மனப்பாங்கு, செயல் ஆகியவற்றை பற்றிய வினாக்களுக்கு உங்கள் விடையையும் ஒத்துழைப்பையும் அளிக்குமாறு கேட்டுக ் கொள்கிறேன். மேலும், உங்கள் ஒத்துழைப்பை நுரையீரல் செயல் திறனை செய்யும் சோதனையிலும் தர விழைகிறேன்.

உங்களின் மேலான ஒத்துழைப்பை நாட்பட்ட நுரையீரல் அடைப்பு நோய் குறைப்பதற்காக மேற்கொள்ளும் செயல்பாடுகளிலும் தருமாறு வேண்டுகிறேன்.

உங்கள் பதில்களை மிகவும் இரகசியமாக பாதுகாக்கப்படும் மற்றும் என்னுடைய இந்த ஆய்விற்காக மாத்திரமே பயன்படுத்தபடும் எனவும் உறுதி அளிக்கிறேன்.

உங்களுக்கு ஏதாவது சந்தேகம் தோன்றினால் வெளிப்படுத்தவும். இதில் ,பங்கேற்பது முற்றிலும் உங்களுடைய விருப்பம். ஆய்வின் இடையில் கூட நீங்கள் விலக விரும்பினால் விலகி கொள்ளலாம்.

இந்து ஆய்வு எந்தவித தீங்கும் உங்களுக்கு ஏற்படுத்தாது என உறுதியளிக்கிறேள்.

கையொப்பம் :

தேதி :

LESSON PLAN ON CHRONIC OBSTRUCTIVE RESPIRATORY DISEASES

LESSON PLAN

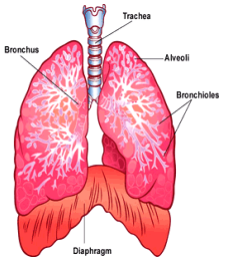
Subject: Effectiveness of Nurse Navigated Self-Management Strategies on knowledge, skill and respiratory parameters regarding management of Chronic Obstructive Respiratory Diseases among patients attending Outpatient Department in selected settings.

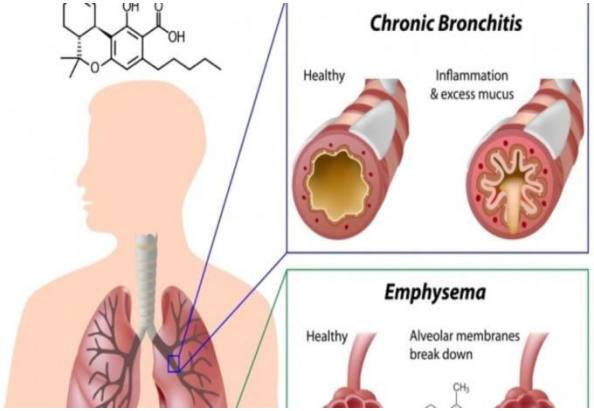
Group	**:**	Patients with CORD and ASTHMA
Place	**:**	Hospital, OPD
Time	**:**	30 – 45 minutes
Teaching method	**:**	Lecture cum discussion, Demonstration and re demonstration.
Seating arrangement	**:**	Theatre method
Instruction mode	**:**	Tamil
Name of the investigator	**:**	Sr.Lourdu
Instructional Aid	**:**	Power point presentation,

General objective: At the end of the Nurse Navigated Self-Management Strategies the persons with CORD and ASTHMA will gain adequate knowledge, skill and positive attitude regarding Buetyko breathing exercises and improve the lung function thus able to manage themselves in an any acute and chronic situation.

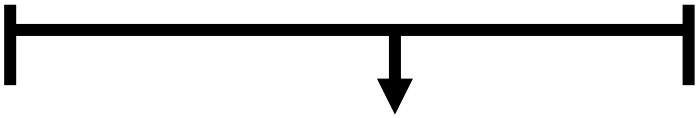
Contributory objectives: At the end of IEC teaching clients will be able to

a) define chronic obstructive respiratory diseases.
b) type of CORD
c) point out the risk factors
d) mention the causes and pathophysiology.
e) list down the clinical manifestation.
f) discuss the diagnostic studies.
g) describe the complication.
h) enumerate the management.
i) explain the self-management.
j) describe the Buteyko breathing technique.
k) Buteyko aim and effects
l) list down the indications and contraindications.
m) demonstrate the technique.

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
1)	introduce the topic	**Introduction** People must breathe in order to live. The process of breathing ("respiration", in medical terminology) is critical because it is the sole mechanism through which vital gasses such as oxygen and carbon dioxide can move between the air and the blood. When someone breaths in, oxygen is removed from the air and dissolved into the blood where it is used as fuel by the body's cells. When someone breaths out, cellular waste products like carbon dioxide are removed from the blood and exhaled back out into the air. This complex gasses takes place in the lungs and involves a number of structures associated with the lungs that help move gasses between the lungs and the air: the bronchi (airways or passages within the lungs), and the alveoli(tiny air sacs composed of special membranes found at the end of the bronchi at which point the transfer of gases between the blood and the air occurs).	Investigator introduces the topic  	Listens
	The participants will be able to			
2.	define chronic obstructive respiratory disease.	Chronic obstructive respiratory disease is a preventable disease, states characterized by airflow limitation that fully reversible	Explains what is CORD	Listens attentively

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
3.	types of CORD	**Types:** ➢ Chronic bronchitis ➢ Emphysema **Chronic bronchitis**, It is the presence of chronic productive cough for 3 months, in a 2 continuous years in the same month in the year, leaving other causes for chronic cough. Productive cough for 3 months, in a 2 continuous years in the same month in the year, leaving other causes for chronic cough. **Emphysema:** Is an abnormal permanent enlargement of the air spaces or air sacs of the lungs are damaged. 	Explain the types of CORD	Listens

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
4.	List out the risk factors	**Risk factors:** ✓ Cigarette smoking. ✓ Occupational dust and chemicals. ✓ Environmental tobacco smoking. ✓ Exposure to fumes from burning fuel. ✓ Nutrition. ✓ Infection.(bacterial.c.pneumoniae) ✓ Genetics ✓ Socio economic factors	Explains the risk factors	Listening and clearing the doubts
5.	mention the causes of CORD and	**Causes:** ❖ Occupational exposure to work place. ❖ Dust found in coal mining. ❖ Gold mining. ❖ Cotton textile. ❖ Industry and chemicals. ❖ Fumes from welding. ❖ Air pollution. ❖ Sudden airway constriction in to inhaled irritants. ❖ Aging (aging results in changes in the lungs structure, the thoracic cage,	Explains the causes	Listening carefully

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
		and the respiratory muscles, gradual loss of elastic of the lungs) the lungs becomes round and smaller).		
6.	explain the pathophysiology of CORD	**Pathophysiology** Triggering factor ⇩ Airway inflammation ⇩ Excess secretion mucus membrane — Airway muscle constriction — Swelling of bronchial membranes  Narrow the breathing passage ⇩ Wheezing ,cough, shortness of breath, tightness in the chest	Explains	Listens

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
7.	list down the clinical manifestation	**List down the Clinical manifestation.** ✓ Chronic cough. ✓ Sputum production. ✓ Wheezing(high pitched hissing sounds) ✓ Chest tightness. ✓ Breathing difficulty on work. ✓ Weight loss and loss of appetite ✓ Respiratory insufficiency. ✓ Respiratory infection. ✓ Barrel chest(describes a rounded bulging chest that resembles the shape of a barrel) ✓ Shortness of breath extreme tiredness ✓ Hemoptysis(coughing up of blood) ✓ Patient sits with tripod position. ✓ Purse lips on expiration. ✓ Swelling in the ankles.	Explains the clinical manifestation	Listens carefully

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
8.	discuss the diagnostic studies	**Diagnostic studies:** **History collection and physical examination** ➢ Pulmonary function test(measures how well the lungs take in and exhale air and how efficiently they transfer oxygen in to the blood) **Chest x-ray** ➢ (provide the picture of the heart and lungs, helps to identify the diaphragm,abdominal cavity, size of the chest level abdominal air collection use of accessory muscles) **Blood test** ➢ (ABGS)Measures how well the lungs are taking in oxygen and putting it into the blood stream, and removing the carbon dioxide from the blood.(the amount of oxygen and corbondioxide in the blood). **Sputum specimen for gram strain** and culture ➢ to identify the root of the lung problem. **ECG** ➢ (shows the presence of swelling in the with in the chest right and left ventricle swelling)	Explains the diagnostic evaluation	Listens And clears the doubts

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
9.	Rule out the complication	**Complication:** ❖ Corpulmonale (swelling of the right side of the heart). ❖ Changes in the patient normal breathing pattern. ❖ Acute respiratory failure ❖ Peptic ulcer(excessive secretion of the gastric acid ,resulting fro m increased arterial co2 and decreased arterial tension) ❖ Depression and anxiety	Explains	Listens
10	Enlist The Management	**Management:** **The primary goal:** ❖ Prevent disease progression. ❖ Relieve symptoms and improve exercise tolerance. ❖ Prevent and treat complication. ❖ promote patient participations. ❖ improve the quality of life. **Smoking cessation:** ➢ Cessation of cigarette,(it reduces the risk of developing CORD and stops the progression of the disease. ➢ It improves the pulmonary function.	Explains	Listens

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
		It decreases the sputum production in CORD patients. **Drug therapy** ➢ Bronchodilator salbutamol, sameterol it relaxes the smooth muscles in the airway and improves the ventilation ➢ Ipratropium bromide-improves the breathing difficulty, airflow obstruction. ➢ Long acting drug-Theophylline (It improves the airflow obstruction and improves the contractility of the diaphragm. ➢ Nebulizer works same as the other medication, improves the respiratory condition. **Oxygen therapy:** Administering the oxygen improves the partial pressure of O2 in inspired air. It reduces the work of breathing reduces the workload on the heart. **Respiratory disorders:** ➢ CORD swelling in the right side of the heart, collapse of lungs lung cancer, blood clot in the lungs.		

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
		➢ **Cardiovascular disorders:** ➢ Heart diseases ,chest pain, loss of function in the heart ➢ Muscles. ➢ **Central nervous system:** ➢ Head injury disordered sleep, overdose of drug. ➢ **Reducing symptoms:** **Self-Management**: ❖ Teach pursed lip and diaphragmatic breathing. ❖ Encourage proper position ❖ Teach controlled coughing and or trail with an incentive spirometer to help to clear airway. ❖ Identify the environment triggers of difficulty in breathing and methods to avoid them. ❖ Teach the method to improve the sleep quality. **Nutritional Needs:** ❖ Take more of protein and calories. ❖ Help the patient to plan for small frequent meals high in protein.		

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
		❖ Low fat protein foods such as lean cuts of meat, poultry, and fish. ❖ Carbohydrates such as whole grain, bread brown rice high fiber diet, improve the digestive system. ❖ Food containing high level of potassium including bananas, orange, dark leafy vegetables. **Foods To Be Avoided;** ❖ Gas forming foods. ❖ Avoid too much fat. ❖ Packed salty foods. **Emotional Health** ❖ Help the patient /care giver verbalizes feelings and meditations, listening to music breathing and relaxation technique. ❖ Encourage to share feelings. **Breathing Aids- Nebulizer And Inhaler** ❖ Assess the proper use of inhaler, recommended as spacer and delivery of full dose.		

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
		❖ Assess the proper inhaler technique and use. ❖ Proper storage of inhaler. **Self-Monitoring Of Co Morbidities** ❖ **Hypertension** (High blood pressure-teach the importance of monitoring and maintain. ❖ **Osteoporosis** (Hole in the bone or birth and fragile from the loss of tissue) ❖ **Anxiety And Depression** ❖ **Diabetic –**to maintain the glucose level **Prevention and treatment of severity of the disease** ❖ Monitor frequently ,severity that worsen the condition ❖ Recognize other signs that worsen the condition such as difficulty in ❖ breathing, sleep disturbances and feeling of weakness, fatigue, fear, and anxiety. ❖ Avoid cough suppressants ❖ Avoid persons with respiratory frequently. ❖ Avoid second hand smoker		

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
		❖ Wash the inhaler .each time used		
11	Introduces the Buetyko breathing	**Introduction** The Buteyko method or Buteyko Breathing Technique is a form of complementary or alternative physical therapy that proposes the use of breathing exercises primarily as a treatment for asthma and other respiratory conditions. The method takes its name from Ukrainian doctor Konstantin PavlovichButeyko, who first formulated its principles during the 1950s. This method is based on the assumption that numerous medical conditions, including asthma, are caused by chronically increased respiratory rate or deeper breathing (hyperventilation).. This method purportedly retrains the breathing pattern through chronic repetitive breathing exercises to correct the hyperventilation, which, according to the method's proponents, will therefore treat or cure asthma as well as any other conditions .At the core of the Buteyko method is a series of reduced-breathing exercises that focus on nasal-breathing, breath-holding and relaxation.		

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
				
12	meaning of Buteyko breathing technique.	**What is Buetyko breathing**? The Buetyko method or Buetyko Breathing Technique is a form of complementary or alternative physical therapy that proposes the use of breathing exercises.	Explains	Listens
13	List the aims	**Aims of Buetyko breathing.** ➢ It acts like the clock maker beginning your breathing back to normal. ➢ Restores your normal breathing. ➢ The effects of Buetyko breathing ➢ Itimproves the physical parameters. ➢ It increases the tolerance of body for higher levels of Co2 in the blood. ➢ It revers the health problem associated withimproper breathing, the most ➢ common of which are over breathing and mouth breathing including poor	Explains	Listens

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
		➢ sleep and sleep apnea . ➢ It keeps the breathing volume normal to maintain ideal Co2 level in the lungs.		
14	Mention The Indications And Contraindication	**Indication for Buetyko breathing** • Bronchial asthma. • llergic and inflammation due to dust. • Rhinitis ,nose congestion pain attack • Resistant cough, snoring, CORD. **Contraindication** • Unable to practice BBT. • Kidney failure. • Current transplant • Resent stroke • Cardiac pacemaker • Active stomach ulcer • Pregnancy • High blood pressure.	Explains	Listens

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
15	methods of buetyko breathing	**Buetyko Breathing** ➢ Tips for successful practice ➢ Finding time to practice Buteyko regularly can be a struggle. Here are a few simple ideas on how to make the most of your practice sessions.  **Choose the right place** - Buteyko exercises require focused concentration. Ideally you need somewhere quiet, with no distractions such as TV, music, mobile phones and pets. Make yourself comfortable, it is much easier to relax if the room is warm enough and you are wearing loose, comfortable clothes. **Stick to a routine** – Choosing set times is great for regular practice and other people in your house will also get to know when you want to be by yourself	Explains	Listens

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
		Think about what you want to achieve – Setting one or two realistic goals can help to keep you committed. **Starting with nose breathing.** Think about it - the nose is designed for breathing and the mouth is designed for eating, drinking and speaking! Your first challenge is to use only your nose for breathing, both in and out, all the time. The nose isn't just the part you can see, there is a huge area behind it that acts as a super-efficient air-cleaning machine. **This protects your lungs by:** • Filtering out dust, pollens, and allergens • Humidifying the air to keep your lungs healthy and moist • Warming the air to prevent cold air irritating your airways • Sterilizing the air to kill bacteria and viruses If your nose is feeling blocked; it is worth doing the nose clearing exercises below before starting your Buetyko practice Set. Nose breathe only **Nodding - ten repetitions** Nod your head backwards and forwards slowly. To get an idea of		

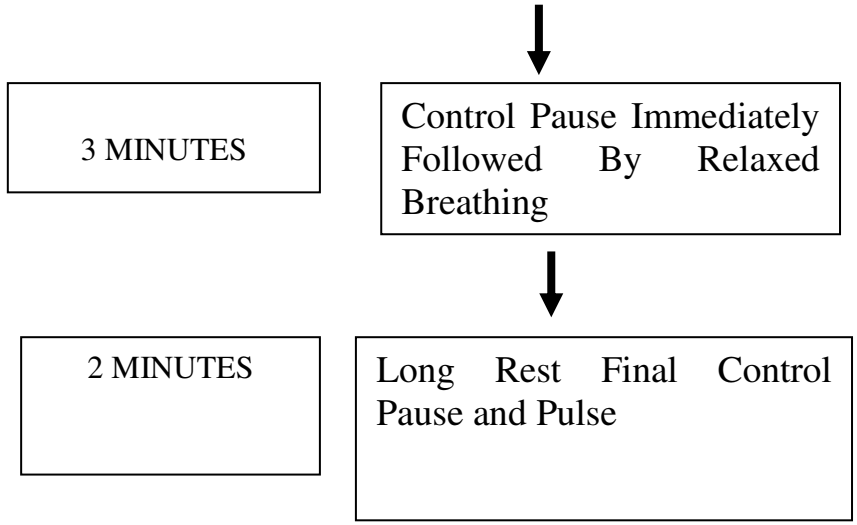
S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
		the speed, try silently counting slowly to three as your head moves backwards and then again as your head comes forwards. Coordinate the nodding movement with your breathing. Breathe in as your head goes back and out as your head comes forwards. Remember to breathe smoothly, gently and as quietly as possible . **Tipping - six repetitions** Take a normal breath in, breathe out gently and then hold your nose. 2 Tip your head backwards threeto six times while holding your breath. This time the movement will need to be faster than before. 3 Release your nose and breathe in gently. Keep your mouth closed. **Hold and Blow - six repetitions** Take a normal breath in, breathe out gently and hold your nose. 2 Increase the pressure at the back of your nose by trying to blow out gently. You don't need to make your cheeks blow out. You may feel your ears 'pop'. 3 Keep the gentle pressure going for a count of five and then breathe in again through your nose. Keep your most closed.		

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
		Relaxed Breathing 1. Relaxed Breathing Finding your pulse Some people find it helpful to check their pulse before and after each Set. The pulse can be found by rest ring two fingers about one centimeter below the wrist - in line with the thumb-side of the hand. 2. After the practice Set, if your pulse stays the same or goes down this indicates that you are relaxing. If your pulse goes up it suggests the exercise Set is encouraging you to breathe more, not less as intended. 1 Sit comfortably with a straight back, legs uncrossed and knees shoulder-width apart. Look slightly upwards or close your eyes. 2 Put your hands on your upper and lower chest and sett le yourself by breathing smoothly and quietly through your nose. 3 Next, focus on those areas of your body where you feel movement as you breathe. 3. Concentrate particularly on the area around your lower chest. Try to let go of these areas as much as possible and minimize the movement of your upper hand. 4 After a couple of minutes let your top hand rest down in your lap. 4. Now relax the rest of your muscles such as those in your face and jaw, neck and shoulders, lower abdomen, hips and legs. You may begin toexperience a slight feeling of a lack of air.		

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
		5. This is good – it shows the exercise is working. 5 Continue gentle, relaxed breaths for around three minutes and then let your breathing return to normal. Keep breathing through your nose and notice a sense of lightness as you breathe **The Control Pause** 1. The Control Pause (CP) has two functions. First as a measure of your progress and second as a quick way of producing a mild degree of "air Hunger" at the start of each cycle of the Buetyko exercise Sets. 2. If you need to open your mouth or use force to stop yourself breathing more deeply, then you have held your breath for too long. Your starting Control Pause is: seconds Week 1 Buetyko Set All of the techniques learned in the first week are brought together in the Week 1 Set. 3. Your Buetyko teacher will advise you on how many times you should repeat the cycle of "Control Pause immediately followed by Relaxed Breathing". 4. You should find that your final Control Pause is longer than your first Control Pause and that your final pulse measurement is the same or lower that the pulse measurement at the start. If this is not the case, note it down on the chart and mention it to your teacher at your next		

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
		appointment. 5. Three Sets a day Practicing three times a day may seem time-consuming initially, but remember that you are trying to change breathing habits that have become established over many years, and this will take time. Ideally, Sets should be practiced before breakfast, before lunch or dinner and before sleep. 6. It is preferable not to practice immediately aft er meals. 1 Take in a normal sized breath in and out through your nose. Hold your nose gently and start your stopwatch. 2 Hold your breath until you feel the first onset of a feeling of lack of air. 3 At this point release your nose, breathe in gently through your nose and stop the stopwatch. **WEEK 1 BUTEYKO SET** 1 – 2 MINS → Nose Clearing Exercise ↓ 3 MINS → Control Pause Immediately Followed By Relaxed Breathing ↓		

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
		20 – 30 SECS → Short Rest ↓ 3 MINS → Control Pause Immediately Followed By Relaxed Breathing ↓ 20 – 30 SECS → Short Rest ↓ 3 MINUTES → Control Pause Immediately Followed By Relaxed Breathing ↓ 20 – 30 SECS → Short Rest		

S.No.	Contributory objectives	Contents	Investigators activity	Learners activity
		 **Conclusion:** Chronic obstructive pulmonary disease (COPD) is a systemic disorder caused mainly by smoking and is characterized by progressive irreversible or partially reversible, airflow obstruction; systemic manifestations; and recurrent exacerbations. Respiratory symptoms include dyspnea, wheezing, coughing, and sputum production. Systemic features include skeletal muscle dysfunction and hence limited ability to exercise, weight loss, depression and anxiety, osteoporosis, increased risk of cardiovascular diseaseincluding right heart failure, and polycythemia.		

நாள் பட்ட நுரையீரல் அடைப்பு நோய்

நாள்பட்ட நுரையீரல் நோய் பற்றிய பாட திட்டம்

தலைப்பு	:	நாள்பட்ட நுரையீரல் அடைப்பு நோய்
குழு	:	நாள்பட்ட நுரையீரல் அடைப்பு நோய் மற்றும் ஆஸ்துமாவால் பாதிக்கப்பட்டவர்
நேரம்	:	20 நிமிடம்
இடம்	:	திரு இருதய மற்றும் அந்தோளியர் மருத்துவமனை புறநோயாளி பிரிவு
கற்பிக்கும் முறை	:	கலந்துரையாடல் மற்றும் தனவல் தொடர்பு தொழில்நுட்பம்
கற்பிக்க பயன்படும் கருவி	:	மடிகணினி, செய்முறை பயிற்சி
இருக்கை ஏற்பாடு	:	பள்ளிக்கூட அமர்வு
பொதுவான செயல் நோக்கம்	:	இந்த பாடத்தின் முடிவில், நாள்பட்ட நுரையீரல் அடைப்பு நோய் மற்றும் ஆஸ்துமா பற்றி விளக்கமாக எடுதது கூறவும், அதைப்பற்றி சரியான அபிப்பிராயம் கொள்ளவும் மற்றும் பீயூட்டிக்கே மூச்சு பயிற்சியை தெரிந்து கொண்டு அவற்றை தினந்தோறும் செய்து அவற்றின் மூலம் பயன் அடைவார்கள்.

குறிப்பான செயல் நோக்கம்:

- ❖ சுவாச அமைப்பு பற்றி விவரித்தல
- ❖ நுரையீரல் அடைப்பு நோய் பற்றிய வரையறை
- ❖ நுழரயீரல் அடைப்பு நோயின் விளக்கம்
- ❖ நோய் வருவதற்கான ஆபத்து காரணிகள்
- ❖ நுரையீரல் அடைப்பு வருவதற்கான காரணங்கள்
- ❖ நாள்பட்ட அடைப்பு வருவதற்கான காரணங்கள்
- ❖ நாள்பட்ட நுரையீரல் அடைப்பு நோய்கான அறிகுறிகள்
- ❖ நாள்பட்ட நுரையீரல் அடைப்பு நோய் கண்டறியும் பரிசோதனையை குறிப்பிடுதல்
- ❖ நாள்பட்ட நுரையீரல் அடைப்பு நோய்யின் விளைவுகள்
- ❖ நாள்பட்ட நுரையீரல் அடைப்பு நோய் தடுப்பதற்கான வழிடுறைகளை விளக்குதல்
- ❖ நாள்கட்ட நுரையீரல் அடைப்பு நோய்கான சிகிச்சை முறைகள்
- ❖ பீயூட்டிகோ மூச்சு பயிற்சி பற்றி விவரித்தல்
- ❖ பீயூட்டிகோ மூச்சு பயிற்சி குறிக்கோள்
- ❖ பீயூட்டினோ மூச்சு பயிற்சி செய்யு வேண்டிய முறைகள்.

வ. எண்	நேரம்	செயல் நோக்கம்	பொருளடக்கம்	பாடவிளக்கம் மற்றும் கற்றல் முறை	
1	1 நிமிடம்	முன்னுரை	மனிதன் உயிர் வாழ சுவாசித்தல் மிக இன்றியமையாத செயலாகும், நீண்ட கால சுவாசக்குழாய் அடைப்பு நோய் உள்ளவர்களுக்கு சுவாசித்தல் அதாவது ஆக்ஸிஜன் மற்றும் கார்பன்டை ஆக்ஸைடு பரிமாற்றமானது, சற்று கடினமாக இருக்கும். நம் உடலின் ஆக்ஸிஜன் உள்ளே வரும் போது இரத்தத்தில் கலந்து உடம்பில் உள்ள செல்களுக்கு தேவையான ஆற்றல் கொடுக்கிறது. அதேபோல கார்பன்டை ஆக்ஸைடு உடலிருந்து வெளியேரும் போது உடம்பில் உள்ள தேவையற்ற மூலக்கூறு வெளியேற்றப்படுகிறது. சுவாசத்தில் நுரையீரலிலுள்ள மூச்சுகுழாய்களும் அதன் பரிவுகளான சுவாசபையும் முக்கிய பங்கு வகிக்கிறது.	கற்பிப்பவர் நுரையீரலை அறிமுகப்படுத்துதல்	
2	1 நிமிடம்	நாள் பட்ட நுரையீரல் அடைப்பு நோய் என்றால்என்ன?	**வரையறை** நாள் பட்ட நுரையீரல் அடைப்பு நோய் என்பது தடுக்க மற்றும் குணப்படுத்த கூடிய நோய், அதனால் ஏற்படும் கற்றோட்ட வரையறை முழுமையாக மாற்ற முடியாது	கற்பிப்பவர் நுரையீரல் நோயை பற்றி விளக்குகிறார். கற்பவர் கவனிக்கிறார்	

வ. எண்	நேரம்	செயல் நோக்கம்	பொருளடக்கம்	பாடவிளக்கம் மற்றும் கற்றல் முறை	
3	2 நிமிடம்	நாள் பட்ட நுரையீரல் அடைப்பு நோயின் வகைகள்	**வகைகள்:** 1. நீண்ட கால சுவாசக்குழாய் நோய் தொற்று 2. காற்றுபை வீங்குதல் **1. நீண்ட கால சுவாசக்குழாய் நோய் தொற்று** இந்நோய் தொடர்ந்து 3 மாதம் மற்றும் அதற்கு மேற்பட்ட நாட்களில் இருமல் ஏற்படுகிறது. **2. காற்றுபை வீங்குதல்** ❖ அதிகமான வீக்கம், மூச்சுதினறல் ஏற்படுத்தி வருகிறது. ❖ மற்றவர்கள் புகைபிடித்தலை சுவாசிப்பதால், தீங்கு விளைவிக்க கூடிய வேதிப் பொருளை சுவாசிப்பதால் தீடீர் என்று மூச்சு திணறல் ஏற்படுதல் ❖ வயது மாற்றங்கள்	கற்பிப்பவர் வகைகளை பற்றி விளக்குகிறார், கற்பவர், ஆவலுடன் னோட்கிறார்.	நாள்பட்ட நுரையீரல் அடைப்பு நோயாள் வகைகள்
4	2 நிமிடம்	நாள் பட்ட நுரையீரல் அடைப்பு நோயில் ஏற்படும் பாதிப்பு	மேலே கொடுக்கப்பட்ட தூண்டுதல் ↓ சுவாச பாதையில் வீக்கம் ஏற்படுதல் ↓ அதிகஅளவு காற்றழுத்த உமிழ்நீர் உமிழ்நீர் தலைபிடிப்பு பாதையில்வீக்கம் ↘ ↓ ↙	கற்பிப்பவர் வரைபடம் கொண்டு கற்பிக்கிறார் கற்பவர் ஆவலுடன் கவனிக்கிறார்.	நுரையீரல் அடைப்பு நோயின் ஏற்படும் பாதிப்பு

வ. எண்	நேரம்	செயல் நோக்கம்	பொருளடக்கம்	பாடவிளக்கம் மற்றும் கற்றல் முறை	
			குறுகிய சுவாசப்பாதை ↓ மூச்சுதிணறல் இருமல், நெஞ்சுப்பகுதி இறுத்தமாதல்		
5	2 நிமிடம்	நாள் பட்ட நுரையீரல் இடைப்பு வருவதற்கான காரணிகள்	**காரனிகள்:-** ❖ புகைப்பிடித்தல் ❖ தொழிற்கலை புகை மற்றும் கழிவுகள் ❖ நம்மை சுற்றி ஒள்ளவர்கள் புகைப்பிடித்தல் ❖ எரிபொருள் கழிவுகள் ❖ ஊட்டசத்து குறைபாடு ❖ நோய்தொற்று ❖ பரம்பரை ❖ சமூக மற்றும் பொருளாதாரம்	கற்பிப்பவர் மடிகணினி மூலம் விளக்கம் அளிக்கிறார் கற்பவர்:- காரணிகளை தெரிந்து கொள்கிறார்	நுரையீரல் அடைப்பு வருவதற்கான கராணிகள்
6.	1 நிமிடம்	நாள் பட்ட நுரையீரல் அடைப்பு வருவமற்கான காரணங்கள்	**காரணங்கள்:-** ❖ வேலை செய்யும் இடங்களில் வெளியிடப்படும் தொழிற்சாலை கழிவுகள் ❖ நிலக்கரி எரிவாயு ❖ தங்கள் வெட்டி எடுப்பவர்கள் ❖ பருத்தி தொழிற்சாலையில் பணி புரிபவர்கள் ❖ காற்று மாநுபடுதல்	கற்பிப்பவர் காலணங்களை விளக்குகிறார் கற்பவர் விளக்கங்களை கேட்டு தெரிந்து கொள்கிறார்.	நாள்பட்ட நுழரயீரல் அடைப்பு வருவதற்கான காரணஙடகள்
7	1 நிமிடம்	நாள் பட்ட நுரையீரல் இடைப்பு நோயை கண்டறியும் பரிசோதனைகள்	**பரிசோதனை:-** ➢ வரலாறு ➢ உடல்பரிசோதனை ➢ நெஞ்சுப்பகுதியினை எக்ஸ்ரே கதிரியக்க ஆய்வு செய்தல்	கற்பிப்பவர் மடிகணினி உதவியுடன் விவரிக்கிறார் கற்பவர்:	நாள் பட்ட நுரையீரல் அடைப்பு நோயை கண்டறியும்

வ. எண்	நேரம்	செயல் நோக்கம்	பொருளடக்கம்	பாடவிளக்கம் மற்றும் கற்றல் முறை	
			➢ இரத்த பதிசோதனை ➢ பின் விளைவுகளை அறிந்து அவற்றிற்கு சிகிச்சை பெறுதல் ➢ நோயாளிகளை முன்னெச்சரிக்கை செய்தல் ➢ வாழ்க்கை முக்கியதுவத்தை அளிதல்	கவனிக்கின்றார்.	பரிசோதனைகள்
8	1 நிமிடம்	நாள் பட்ட நுரையீரல் அடைப்பு நோளால் ஏற்படும் விளைவுகள்	**விளைவுகள்:-** ❖ வலப்புற இதயம் வீக்கமடைதல் ❖ சுவாத்தலில் மாற்றம் ஏற்படுதல் ❖ சுவாச மண்டலம் செயலிதைத்தல் ❖ வயிற்று புண் ❖ மன அழுத்தம் மற்றும் பயம்	கற்பிப்பவர் விளைவுகளை எடுத்துக் காட்டுடன் விளக்கம் அளித்தல் கற்பவர் ஆரவத்துடன் தலையை ஆட்டுதல்	நாள் பட்ட நுரையீரல் அடைப்பு நோயால் ஏற்படும் விளைவுகள்
9	3 நிமிடம்	நாள் பட்ட நுரையீரல் அடைப்பு நோய் கட்டுபடுத்தும் முறைகள்	**முதல்படி:** ❖ நோய்க்கான காரணிகளை அறிந்துவிடுதல் ❖ அறிகுறிகளிலிருந்து வெளிவருதல்	கற்பிப்பவர் கட்டுகடுத்தும் முறைகளை கலந்துரையாடல் கற்கவா கவனிக்கிறார்	நாள் பட்ட நுரையீரல் அடைப்பு நோய் கட்டுபடுத்தும் முறைகள்
10			**II. புகைபிடித்தலை நிறுத்துதல்** **III. மருத்துவ சிகிச்சை** ➢ சுவாச அடைப்பைகளை சிசெய்யும் மருந்துகளை பயன்படுத்துதல் ➢ புகைபடிக்கும் மருத்துவ கருவியை உபளோகித்தல்.		

வ. எண்	நேரம்	செயல் நோக்கம்	பொருளடக்கம்	பாடவிளக்கம் மற்றும் கற்றல் முறை	
			ஆக்ஸிஜன் கொடுத்தல்:- ❖ நோயாளிக்கு ஆக்ஸிஜன் செலுத்துதல் ❖ சுவாச தொற்றினை சரிசெய்தல் ❖ நரம்பு தளர்ச்சி நோயிறக்கு சிகிச்சை செய்தல. **அறிகுறிகள் குறைவதற்கு:-** **தன்னிச்சையான முறை:** • சுவாச பயிற்சிசியினை மேற்க்கொள்ளுதல் • சரியான முறையில்அமர்தல் அல்லது படுத்தல. • சுவாச பயிற்ச்சியினை கருவியினை உபயோகித்தல் • சுற்றுபுறத்தை கவனித்து, நோய் காரணிகளை கண்டறிதல்		
			தேவையான ஊட்டசத்து: ❖ அதிக அனவு புரதசத்து நிறைந்த உணவு ❖ நோயாளிகளுக்கு உண்ணக்கூடிய உணவுகளில் எதில் அதிக புரதசத்து உள்ளது என்பதை தெரிவிக்க வேண்டும் ❖ குறைந்தளவு கொழுப்பு மற்றும் புரதசத்து நிறைந்த உணவுகள் மீன் வகைகள் ❖ அதிகஅளவு பொட்டாசியம் நிறைந்த உணவுகள் (வாழைப்பழம், ஆரஞ்சு, பச்சை காய்கறிகள்) **தவிர்க்க வேண்டிய உணவுகள்:** ❖ வாயு நிறைந்த உணவு பொருட்கள் ❖ அதிக கொழுப்பு நிந்நத உணவுகள் ❖ பாக்கெட் செய்யப்பட்ட உப்பு பண்டங்கள்		

வ. எண்	நேரம்	செயல் நோக்கம்	பொருளடக்கம்	பாடவிளக்கம் மற்றும் கற்றல் முறை	
			உணர்ச்சி சம்மந்தப்பட்ட சுகாதாரம்: ➢ நோயாளிகளுக்கு ஓய்வெடுக்கும் முறைகளை கற்றுகொடுக்க வேண்டும், அதாவது தியானம், மெல்விய சுகமான இசையை காதில் கோட்டல் ➢ சுவாசபயிற்சி ➢ உணர்வுகளை மற்றவரோடு பகிர்தல்		
			மூக்கின் வழியாக மருந்தை உறிஞ்சி எடுத்தல் ❖ முறையான சுவாசப்பயிற்சி கருவிகளை பயன்படுத்துவதை கண்டறிதல் ❖ அக்கருவிகளை சரியான முறையில் பயன்படுத்துவதை கவனிக்க வேண்டும் ❖ அக்கருவிகளை முறையாக பாதுகாக்க வேண்டும் **தன்னைத்தானே கணக்கிடுதல்:** • உயர் இரத்த அழுத்ததைப் கண்க்கிடுதல் • எலும்பில் ஓட்டை உள்ளதா என்று பரிசோதனை செய்து கொள்ள வேண்டும் • பயம் மற்றும் மன அழுத்தம் • உடலின் சர்க்கரை அளவை சரியான முறையில் வைத்து கொள்ள வேண்டும்.		
11	1 நிமிடம	நாள் பட்ட நுரையீரல் அடைப்பு நோயை தடுக்கும் முறைகள்	**தடுக்கும் முறைகள் மற்றும் நோய்க்கான சிகிச்சை முறைகள்.** ❖ அடிக்கடி நோயாளியின் உடல்நிலையை கவனித்தல் ❖ நோய்தன்மை அதிகரிதலின் அறிக்குறிகளான மூச்சுதிணறல், தூக்கமின்மை, உடல் சோர்வற்றநிலை, பயம் ஆகியவற்றை கவனித்தல் ❖ இருமலை கட்டுபடுத்தும் மருந்துகளை தவிர்க்க வேண்டும். ❖ சுவாசகுழாய் நோய்தொற்று உள்ளவர்களிடம் இருந்து	கற்பிப்பவர் எடுத்துகாட்டுகளுடன் தடுக்கும் முறைகளை விளக்குகிறார் கற்பவர்	நாள்பட்ட நுரையீரல் அடைப்பு நோயை தடுக்கும் முறைகள்

வ. எண்	நேரம்	செயல் நோக்கம்	பொருளடக்கம்	பாடவிளக்கம் மற்றும் கற்றல் முறை	
			பாதுகாக்கபட வேண்டும். ❖ புகைப்பிடிப்பவர்களிடம் இருந்து நம்மை நாமே பாதுகாத்து கொள்ள வேண்டும். ❖ புகைப்பிடிக்கம் கருவியை பயன்படுத்திய பின்பு நன்றாக சுத்தம் செய்து வைக்க வேண்டும் ❖ மருத்துவரை சந்திக்க வேண்டும், ஏதாவது விளைவுகள் ஏற்பட்டால்	ஆர்வத்துடன் கேட்கிறார்	
12	1 நிமிடம்	புயூட்டிகோ சுவாசப்பயிற்சி விவரித்தல்	**புயூட்டிகோ சுவாசப்பயிற்சி** **முன்னுரை:** புயூட்டிகோ சுவாசப்பயிற்சி என்பது ஆஸ்துமா போன்ற சுவாச நோய்க்கான முதல் நிலை சிகிச்சை ஆகும். இந்த முறையானது டாக்டர் புயூட்டிகோ என்பவரால் அறிமுகப்படுத்தப்பட்டது. இந்த முறை ஆஸ்துமா போன்ற நோய்கள், கட்டுபடுத்த பயன்படுகிறது. இதை தொடர்ந்து கடைபிடித்தல், மருத்துமனைக்கு செவ்வதை தடுக்கலாம்.	கற்பிப்பவர் புயூட்டிகோ சுவாசப் பயிற்சியை அறிமுகப்படுத்து கிறார்.	
13	1 நிமிடம்	புயூட்டிகோ சுவாசப்பயிற்சி	**குறிக்கோள்:** ❖ இது சுவாசத்தை சரிசெய்து, கடிகாரம் ஒரே நிலையாய் ஓடுவது போல் சுவாசத்தை ஒரே நிலையில் சீராக வைக்கிறது. ❖ சாதரணமாக நுரையிரலை இயக்க வைக்கிறது. ❖ மனிதனின் உடல்நிலையை சீராக வைக்கிறது. ❖ மனிதனின் நுரையீரலில் உள்ள கார்பன்- ஆக்ஸ்டை சரி செய்கிறது. ❖ சுவாச சம்மந்தமான அனைத்து பிரச்சனைகளையும் சரி செய்கிறது.	கற்பிப்பவர் மடிகணினி எதவியுடன் விளக்கம் அளிக்கிறார்	புயூட்டிகோ சுவாசப் பயிற்சி
14.	1 நிமிடம்	புயூட்டிகோ சுவாசப்பயிற்சி	புயூட்டிகோ சுவாசப்பயிற்சி தேவைப்படுவர்கள் ➢ ஆஸ்துமா		

வ. எண்	நேரம்	செயல் நோக்கம்	பொருளடக்கம்	பாடவிளக்கம் மற்றும் கற்றல் முறை	
		தேவைப்படுவர்கள் மற்றும் பயன் படுத்த கூடாதவர்கள்	➢ தூசியினால் வரும் ஒவ்வாமை ➢ மூக்கடைப்பு ➢ இருமல், குறட்டை பயன் படுத்த கூடாதவர்கள் ➢ சிறுநீரகம் செயலிழந்தவர்கள் ➢ பக்கவாதம் ஏற்பட்டவர்கள் ➢ பேஸ்மேக்கர் பொருத்தப்பட்டவர்கள் ➢ குடல்புண் உடையவர்கள் ➢ வயிற்று அறுவை சிகிச்சை செய்தவர்கள்		
15.	1 நிமிடம்	புயூட்டிகோ சுவாசப்பயிற்சி வழிமுறைகள்	**நல்ல வெற்றி கரமான பயிற்ச்சிக்கு சில வழிமுறைகள்** **சரியான இடத்தை தேர்வு செய்யவும்:** ❖ பயிற்சி செய்யும் இடமானது அடைதியான இடமாக இருக்க வேண்டும்.கூர்மையான பொருட்கள் மற்றும் திசை திருப்பும் பொருட்கள் எதுவும் அருகே இருக்க கூடாது. ❖ தளர்ந்த ஆடைகளை அணிய வேண்டும். ❖ சுவாச பயிற்ச்சினை நடைமுறை படுத்த வேண்டும். ❖ பயிற்ச்சியை குறிக்கோளுடன் செய்ய அவற்றை அடைய முயற்சி செய்ய வேண்டும். ❖ முதலாவதாக மூச்சு பயிற்ச்சியை செய்ய வேண்டும்.	கற்பிப்பவர் வழிமுறைகளை எடுத்து கூறுகிறார் கற்பவர் கவனிக்கிறார்	புயூட்டிகோ சுவாசப் பயிற்சி வழி முறைகள்
			❖ மூக்கின் வழியாக மூச்சை உள்ளே இழுத்து வாய் வழியாக வெளியே விடவும். ❖ பயிற்ச்சியை ஆரம்பிப்பதற்கு முன்பு, தலையினை முதலில் முன்புறமாகவும், பின் நோக்கியும் மெதுவாக அசைக்கவும், மெதுவாக மூன்று முறை முன் நோக்கியும் பின் நோக்கியும் அசைக்கவும். இதை செய்யும் போது சுவாச பயிற்ச்சியையும் செய்யவும்.	கற்பிப்பவர் வழிமுறைகளை எடுத்து கூறுகிறார் கற்பவர் கவனிக்கிறார்	புயூட்டிகோ சுவாசப் பயிற்சி வழி முறைகள்

வ. எண்	நேரம்	செயல் நோக்கம்	பொருளடக்கம்	பாடவிளக்கம் மற்றும் கற்றல் முறை	
			❖ தலையை முன்நோக்கி அசைக்கும் பொழுது மூச்சினை உள்ளிழுத்துக் கொண்டும், பின் பின்நோக்கி அசைக்கும் பொழுது மூச்சினை வெளியே விடவும். மெதுவாக, வேகமாகவும் செய்யவும்.		
16	4 நிமிடம்	புயூட்டிகோ சுவாசப்பயிற்சி வழிமுறைகள்	❖ Tipping- 6 முறை மீண்டும் செய்யவும் ❖ சாதரணமாக முதலில் மூச்சினை எடுத்துக்கொண்டு மூக்கின் மேற்பகுதியை இரு விரல்களால் பிடித்துக் கொள்ளவம். மூக்கினை உள்ளிழுக்கும்பொழுது தலையினை முன்நோக்கி 6 அதிகரித்தக்கொள்ள, பின் கைகளை மூக்கிலிருந்து எடுத்து சாதரணமாக மூச்சினை விடவும். வாயினை மூடிக்கொள்ளவும். ❖ மூச்சை இழுத்துக்கொண்டு, பின்பு மெதுவாக மூச்சு விடவும்- 6 முறை மீண்டும் செய்யவும் ❖ சாதரணமாக நன்ற மூச்சினை எடுத்து கொள்ளவும்.	கற்பிப்பவர் வழிமுறைகளை எடுத்து கூறுகிறார் கற்பவர் கவனிக்கிறார்	புயூட்டிகோ சுவாசப் பயிற்சி வழி முறைகள்
17	4 நிமிடம்	புயூட்டிகோ சுவாசப்பயிற்சி வழிமுறைகள	❖ அழுத்தத்தை அதிகப்படுத்த மூக்கினை விரல்களால் பிடித்து கொள்ளவும் ❖ வாயினை நன்றாக மூடிக்கொள்ளவும் ❖ மூக்கின் ஒருபுறம் அடைத்த மாதிரி அப்பொழுது உணர்கின்றஓமே, அதுவரை மூச்சினை வெளியில் விடக்கூடாது. ❖ இதற்கு சுவாச அழற்ச்சி என்று பெயர் இதனை ஆறு (6)முறை மீண்டும் செய்ய வேண்டும்.		புயூட்டிகோ சுவாசப் பயிற்சி வழிமுறைகள

வ. எண்	நேரம்	செயல் நோக்கம்	பொருளடக்கம்	பாடவிளக்கம் மற்றும் கற்றல் முறை	
18	5 நிமிடம்	புயூட்டிகோ சுவாசப்பயிற்சி வழிமுறைகள்	**CONTROL PAUSE TECHNIQUE** **முதல் வார புயூட்டிகோ:** **மூச்சினை சுத்தம் செய்யும் பயிற்சி** **3 நிமிடங்கள்:** கட்டுபாடு இடை நிறுத்த உடனடியாக செய்யவும். சாதரணமாக, சுவாசத்தை தொடர்ந்து ↓ **20-30 நொடிகள்:** சிறிய ஓய்வு ↓ **3 நிமிடங்கள்:** மீண்டும் கட்டுபாடு இடை நிறுத்த படிகளை செய்யவும் ↓ **20-30 நொடிகள்**: சிறிய ஓய்வு ↓ **3 நிமிடங்கள்:** சாதரணமான சுவாசத்தை தொடர்ந்து உடனடியாக கட்டுபாட இடை நிறுத்த படிகளை செய்யவும் ↓ **20-30 நொடிகள்:** சிறிய ஓய்வு ↓	கற்பிப்பவர் செய்முறை பயிற்ச்சியை கற்ப்பிக்கிறார்	கற்பவர் அதை திரம்ப செய்கிறார்

வ. எண்	நேரம்	செயல் நோக்கம்	பொருளடக்கம்	பாடவிளக்கம் மற்றும் கற்றல் முறை	
			3 நிமிடங்கள்: மீண்டும் கட்டுபாடு இடை நிறுத்த படிகளை செய்யவும்		
			20-30 நொடிகள்: சிறிய ஓய்வு ↓ மீண்டும் கட்டுபாடு இடை நிறுத்த படிகளை செய்யவும் ↓ சாதரணமான சுவாசத்தை கடைபிடிக்கவும் **முடிவுரை:** நீண்ட சுவாக்குழாய் அடைப்பு நோய் என்பது ஒரு வகையான பரவும் தன்மையற்ற நோய், இது முக்கியமாக புகை பிடிப்பதனால் உண்டாகிறது. இதன் தன்மை மீண்டும் சுவாசித்தலின் போது காற்று வெளியேறுதல் அடைப்பதால் ஆகும். இதன் அறிகுறிகளாவது மூச்சுதிணறல், சளி சேறுதல், இருமல் போன்ற அறிகுறிகள் உள்ளன. எலும்பு மற்றும் தசை ஒழுங்கற்று செயல்படுதல், எலும்பில் ஓட்டை விழுதல், இருதய கோளாறு ஊற்படும் வாய்ப்புகளும் அதிகமாக குறிப்பக வலம்புறம் இதயம்.		

APPENDIX-H

I. CODING FOR DEMOGRAPHIC VARIABLS

PRE-TEST/POST TEST

DATA COLLECTION TOOL

Sample no: -------

PART- 1: BACKGROUND VARIABLES

Instructions: Specify the most suitable answer for each of the following questions from the options given below.

A. DEMOGRAPHIC DATA:

1. Age (in years)
   a. 21-35 1
   b. 36-50 2
   c. 51-60 3
   d. ≥ 65 4

2. Gender:
   a. Male 1
   b. Female 2

3. Education
   a. Professional 1
   b. Graduate or post graduate 2
   c. Intermediate of post high school diploma 3
   d. High school certificate 4
   e. Middle school certificate 5
   f. Primary school certificate 6
   g. Non- literate 7
   h. Others 8

4. Occupation:
   a. Professionals 1
   b. Semi Profession 2

c. Clerical, Shop Owner/ Farmers 3
d. Skilled 4
e. Semi skilled 5
f. Unskilled 6
g. Unemployed 7
h. Others 8

5. Family monthly income (in Rs.)……..:
   a. ≤5000 1
   b. 5,001 to 15,000 2
   c. 15,001 to 25,000 3
   d. ≥25,001 4

6. Total members in the family including self……..

7. Area of residence:
   a. Urban 1
   b. Semi urban 2
   c. Rural 3
   d. Slum 4
   e. Others 5

8. Types of fuel used for cooking
   a. Wood 1
   b. Kerosene 2
   c. Bio-gas 3
   d. LPG Gas 4
   e. Electric stove 5
   f. .>one of the above 6
   g. Others 7

B.CLINICAL VARIABLES

1. Family history of Chronic Obstructive Respiratory Diseases
   a. Yes 1
   b. No 2

   1.1. If "yes" specify relationship with affected family member
      a. Paternal 1
      b. Maternal 2
      c. Both 3
      d. Sibling 4
      e. Others 5

2. Smoking status
   a. Non –smoker 1
   b. Ex-Smoker 2
   c. Currently Smoking 3
   d. Active Smoker 4
   e. .Passive smoker 5

      3.1 Years of chronicity 6

3. Exposure to air pollutants
   a. Yes 1
   b. No 2

   3.1. If "yes" specify the type and chronicity.
      a. Tobacco smoke 1
      b. Dust. 2
      c. Chemical /exhaust fumes 3
      d. Industrial/ power plant / copper industry/ cotton industry 4
      e. .> one of the above 5

4. Chronicity of Chronic Obstructive Respiratory Disease
   a. 5 – 8 years 1
   b. 9 – 12 year 2
   c. 13 – 17 years 3
   d. > 17 years 4

5. Past history of acute respiratory infection.
   a. 10 days back 1
   b. 15 days back 2
   c. 20 days back 3
   d. 25 days 4
   e. Within a month 5

6. Are you allergic?
   a. Yes 1
   b. No 2

6.1. If “Yes “specify (upper respiratory infection.)
   1. Pollen 1
   2. Food 2
   3. Pet animals 3
   4. House dust 4
   5. Others 5

7. Ongoing treatment for chronic obstructive respiratory disease?
   a. Yes 1
   b. No 2

   7.1. If “yes” specify the regularity
      a. Regular 1
      b. Irregular 2

8. Presence of co- morbid illness
   a. Yes 1
   b. No 2

C: ANTHEROPOMETRIC VARIABLES

1. Height……(cm) 1
2. Weight……..(kg)
3. BMI……
   a. Underweight 1
   b. Normal range. 2
   c. Overweight –At Risk 3
   d. Overweight-Moderately obese 4
   e. Overweight—Severely Obese 5

APPENDIX – I

S.No.	Content	Item	Total Item	Percentage
i	**BACKGROUND VARIABLES**			
a.	Demographic Data	1-8	8	9.64
b.	Clinical Variables	1-8	8	9.64
c.	Anthropometric Variable	1-3	3	3.61
ii	Structured Knowledge Questionnaire	1-25	25	30.12
iii	Observational Checklist	1-15	15	18.07
iv	Respiratory Parameters data sheet.	1-4	4	4.82
1	History collection of CORD symptoms	1-8	8	9.64
2	Observation of current physical features of CORD	1-5	5	6.02
3	Auscultation for presence of abnormal breath sounds	1-2	2	2.42
4	Palpation for presence and grading of pedal edema.	1	1	1.20
	Bio-physiological measures-			
	Peak Expiratory Flow Rate (PEFR), Spirometry (inspiratory capacity), Pulse oximetry (O_2 saturation) Respiratory rate (breaths/minute)	1 1 1 1	1 1 1 1	4.82
	TOTAL	**83**	**83**	**100**

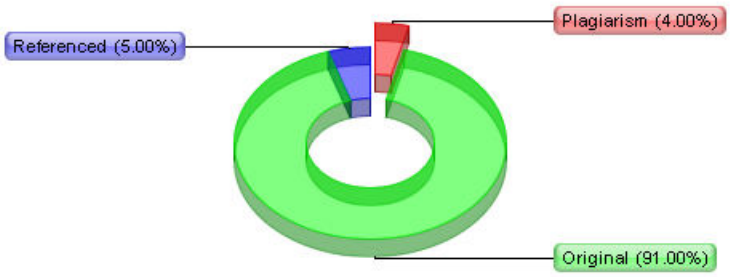
Plagiarism Detector v. 1041 - Originality Report:

Analyzed document: 09-Aug-18 11:23:08 AM

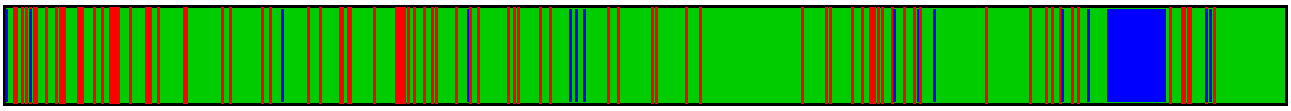
"Sr. Lourdu.docx"

Licensed to: **Dr. Kanchana Khan**

Relation chart:



Distribution graph:



Comparison Preset: Word-to-Word. Detected language: English

Top sources of plagiarism:

% 6	wrds: 1464	http://repository-tnmgrmu.ac.in/view/subjects/NURSING1.html
% 3	wrds: 774	http://ijanm.com/sitemap.aspx
% 2	wrds: 373	https://www.researchgate.net/publication/274564904_Indian_guidelines_for_asthma_Adherence_...

[Show other Sources:]

Processed resources details:

580 - Ok / 63 - Failed

[Show other Sources:]

Important notes:

Wikipedia:	Google Books:	Ghostwriting services:	Anti-cheating:
Wiki Detected!	GoogleBooks Detected!	[not detected]	[not detected]

Excluded Urls:

Included Urls:

Detailed document analysis:

INTRODUCTION

Quotes detected: **0.06%** in quotes: id: **1**

“The way you are breathing can make you sick but it can also make you well.”

(Dr.Konstanin Pavlovich Buteyko)

PHOTOGRAPHS


AARTHI SCANS & LABS